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IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION

GRANVILLE COUNTY PUBLIC
SCHOOLS BOARD OF EDUCATION,

Plaintiff,

v.

META PLATFORMS, INC., FACEBOOK
PAYMENTS, INC., SICULUS, INC.,
FACEBOOK OPERATIONS, LLC,
INSTAGRAM, LLC, FACEBOOK
HOLDINGS, LLC, META PAYMENTS,
INC., SNAP INC., TIKTOK INC.,
TIKTOK, LTD., TIKTOK, LLC,
BYTEDANCE LTD., BYTEDANCE INC.,
GOOGLE LLC, and YOUTUBE, LLC,

Defendants.

Civil Case No. 5:24-cv-460

COMPLAINT

JURY TRIAL DEMANDED

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23
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25
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27
28

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. THE PARTIES.....	5
A. PLAINTIFF.....	5
B. DEFENDANTS	5
1. Meta	5
2. Snap.....	6
3. ByteDance.....	7
4. Google.....	8
III. JURISDICTION AND VENUE	8
IV. FACTUAL ALLEGATIONS	9
A. DEFENDANTS’ APPS HAVE CREATED A YOUTH MENTAL HEALTH CRISIS.	9
B. DEFENDANTS TARGET CHILDREN AS A CORE MARKET, HOOKING KIDS ON THEIR ADDICTIVE SOCIAL MEDIA PLATFORMS.	18
1. Children are uniquely susceptible to Defendants’ addictive apps.	21
2. Defendants design their apps to attract and addict youth.	25
3. Millions of kids use Defendants’ products compulsively.....	30
4. Defendants’ defective products encourage dangerous “challenges.”	33
5. Defendants’ defective social media apps facilitate and contribute to the sexual exploitation and sextortion of children, and the ongoing production and spread of child sex abuse material online.	35
C. META MARKETS AND DESIGNS FACEBOOK AND INSTAGRAM TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS	38
1. Background and overview of Meta’s products.	38
b. Facebook’s acquisition and control of Instagram.	39
2. Meta intentionally encourages youth to use its products and then leverages that usage to increase revenue.	42
3. Meta intentionally designed product features to addict children and adolescents.	50

TABLE OF CONTENTS
(continued)

		Page
	a. Facebook’s and Instagram’s algorithms maximize engagement, promoting use at levels and frequency that is harmful to kids.	51
	b. Facebook’s and Instagram’s user interfaces are designed to create addictive engagement.	56
	c. Instagram’s defective product features cause negative appearance comparison and social comparison.	60
	d. Meta has failed to implement effective age-verification measures to keep children off of Facebook and Instagram.	64
	e. Facebook’s and Instagram’s parental controls are defective.	69
	f. Facebook’s and Instagram’s defective features include impediments to discontinuing use.	71
	4. Meta has concealed from users, the public, and Congress the harmful effects that Instagram’s and Facebook’s design have on children.	73
	5. Meta failed to adequately warn about the dangers and harms caused by Instagram and Facebook, or provide instructions regarding safe use.	79
	D. SNAP MARKETS AND DESIGNS SNAPCHAT TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS.	80
	1. Background and overview of Snapchat.	82
	2. Snap targets children.	83
	a. Snap has designed its Snapchat product to grow use by children to drive the company’s revenue.	83
	b. Snap promotes Snapchat to children.	86
	3. Snapchat is designed to addict children through psychological manipulation.	90
	a. Snap designed Snapchat to drive compulsive use through a set of social metrics and other manipulation techniques that induce compulsive use.	91
	b. Snap’s defective features are designed to promote compulsive and excessive use.	97

TABLE OF CONTENTS
(continued)

		Page
1		
2		
3		
4	4. Snap designed Snapchat with features that harm children directly or expose children to harm.....	100
5	a. Disappearing “Snaps” and “My Eyes Only” encourage destructive behavior among Snap’s teen users.	100
6	b. Snapchat’s “Snap Map” feature endangers children.....	101
7	c. Snapchat’s “Quick Add” feature endangers children.	102
8	d. Snapchat’s Lenses and Filters features promote negative appearance comparison.....	103
9		
10	5. Snap has implemented ineffective and misleading parental controls, further endangering children.	106
11	6. Snap facilitates the spread of CSAM and child exploitation.	107
12	7. Snap failed to adequately warn about the harms its product causes or provide instructions regarding safe use.	111
13	E. BYTEDANCE MARKETS AND DESIGNS ITS TIKTOK TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS	112
14		
15	1. Background and overview of TikTok.....	113
16	2. ByteDance intentionally encourages youth to use its product and then leverages that use to increase revenue.	114
17	3. ByteDance intentionally designed product features to addict children and adolescents.	115
18	a. TikTok’s age-verification measures are defective.....	115
19	b. TikTok’s parental controls are defective.	117
20	c. ByteDance intentionally designed TikTok’s defective features and algorithms to maximize engagement using automatic content, time-limited experiences, intermittent variable rewards, reciprocity, and ephemeral content.	119
21	d. ByteDance’s defective features include impediments to discontinuing use.	133
22	e. ByteDance’s defective features inflict impossible image standards and encourage negative appearance comparison.	134
23		
24	4. ByteDance facilitates the spread of CSAM and child exploitation.	136
25	5. ByteDance failed to adequately warn about the harms its product causes or to provide instructions regarding safe use.....	140
26		
27		
281		

TABLE OF CONTENTS
(continued)

	Page
F. GOOGLE MARKETS AND DESIGNS YOUTUBE TO ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL HEALTH CRISIS	143
1. Background and overview of YouTube.....	144
2. Google intentionally encourages youth to use YouTube and then leverages that use to increase revenue.	146
3. Google intentionally designed product features to addict children and adolescents.	151
a. Google’s age-verification measures and parental controls are defective.....	151
b. YouTube is defectively designed to inundate users with features that use intermittent variable rewards and reciprocity.	154
c. Google’s algorithms are designed to maximize “watch time.”.....	159
d. YouTube’s defective features include impediments to discontinuing use.	170
4. Google facilitates the spread of CSAM and child exploitation.	171
5. Google failed to adequately warn about the harm its products cause or provide instructions regarding safe use.	176
G. IMPACT OF THE DEFENDANT-CREATED MENTAL HEALTH CRISIS ON PLAINTIFF	178
V. PLAINTIFF’S CLAIMS.....	181
COUNT 1: Public Nuisance.....	181
COUNT 2: Negligence	186
COUNT 3: Gross Negligence	191
VI. PRAYER FOR RELIEF	192
VII. JURY DEMAND.....	193

1 **I. INTRODUCTION**

2 1. American children are suffering an unprecedented mental health crisis fueled by
3 Defendants’ addictive and dangerous social media products. In the past decade, Americans’
4 engagement with social media grew exponentially, nowhere more dramatically than among our
5 country’s youth. That explosion in usage is no accident. It is the result of Defendants’ studied
6 efforts to induce young people to compulsively use their products—Instagram, Facebook,
7 TikTok, Snapchat, and YouTube. And Defendants have grown not just their user bases, but the
8 frequency with which users use their platforms and the time each user spends on their platforms.
9 Defendants’ growth is a product of choices they made to design and operate their platforms in
10 ways that exploit the psychology and neurophysiology of their users into spending more and
11 more time on their platforms. These techniques are both particularly effective and harmful young
12 users. Defendants have intentionally cultivated, creating a mental health crisis among America’s
13 youth.

14 2. Defendants have done so for profit. Adolescents and children are central to the
15 Defendants’ business models. These age groups are highly connected to the Internet, more likely
16 to have social media accounts, and more likely to devote their downtime to social media usage.
17 Additionally, youth influence the behavior of their parents and younger siblings. As one
18 Defendant put it, “los[ing] the teen foothold in the U.S.” would mean “los[ing] the pipeline” for
19 growth.¹

20 3. Over the past decade, Defendants have relentlessly pursued a strategy of growth-
21 at-all-costs, recklessly ignoring the impact of their products on children’s mental and physical
22 health and well-being. In a race to corner the “valuable but untapped” market of tween and teen
23
24
25

26 ¹ Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*,
27 N.Y. Times (Oct. 26, 2021), available at
<https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

1 users, each Defendant designed product features to promote repetitive, uncontrollable use by
2 kids.²

3 4. Recognizing the power of engaging young users, Defendants deliberately tweaked
4 the design and operation of their apps to exploit the psychology and neurophysiology of kids.
5 Because children’s and adolescents’ brains are not fully developed, they lack the same emotional
6 maturity, impulse control, and psychological resiliency as adults. As a result, they are uniquely
7 susceptible to addictive features in digital products and highly vulnerable to the consequent
8 harms. Knowing this, Defendants wrote code designed to manipulate dopamine release in
9 children’s developing brains and, in doing so, create compulsive use of their apps.

10 5. Defendants’ strategy paid off. Users of their products now number in the billions,
11 and the frequency and time spent by these users has grown exponentially.

12 6. Yet, Defendants’ growth has come at the expense of its most vulnerable users:
13 children and teens around the world who they cultivated and exploited. Children and teens are
14 the direct victims of the intentional product design choices made by each Defendant. They are
15 the intended targets of the harmful features that pushed them into self-destructive feedback loops

16 7. Today, over a third of 13- to 17-year-old kids report using one of Defendants’
17 apps “almost constantly” and admit this is “too much.” Yet more than half of these kids report
18 that they would struggle to cut back on their social media use. Instead of feeding coins into
19 machines, kids are feeding Defendants’ platforms with an endless supply of attention, time, and
20 data.

21 8. Defendants’ choices have generated extraordinary corporate profits—and yielded
22 immense tragedy. Suicide rates for youth are up an alarming 57%. Emergency room visits for
23 anxiety disorders are up 117%. In the decade leading up to 2020, there was a 40% increase in
24 high school students reporting persistent sadness and hopelessness, and a 36% increase in those
25

26 ² Georgia Wells & Jeff Horwitz, *Facebook’s Effort to Attract Preteens Goes Beyond Instagram*
27 *Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), [https://www.wsj.com/articles/facebook-](https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667)
28 [instagram-kids-tweens-attract-11632849667](https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667).

1 who attempted to take their own lives. In 2019, one in five high school girls had made a suicide
2 plan. In 2021, one in three girls seriously considered attempting suicide. Children and their
3 parents and guardians across the country have struggled to cope with the severe, lasting damage
4 visited on their families by anxiety, depression, addiction, eating disorders, self-harm,
5 suicidality, and the loss of outliving one's child.

6 9. Instagram, Facebook, TikTok, Snapchat, and YouTube have rewired how our kids
7 think, feel, and behave. Disconnected "Likes" have replaced the intimacy of adolescent
8 friendships. Mindless scrolling has displaced the creativity of play and sport. While presented as
9 "social," Defendants' products have in myriad ways promoted disconnection, disassociation, and
10 a legion of resulting mental and physical harms.

11 10. The U.S. Surgeon General recently explained that children versus Big Tech is
12 "just not a fair fight."³ "You have some of the best designers and product developers in the world
13 who have designed these products to make sure people are maximizing the amount of time they
14 spend on these platforms. And if we tell a child, use the force of your willpower to control how
15 much time you're spending, you're pitting a child against the world's greatest product
16 designers."

17 11. The Surgeon General's comments have since been echoed by President Biden
18 himself. In a January 11, 2023 op-ed, President Biden recognized: "The risks Big Tech poses for
19 ordinary Americans are clear. Big Tech companies collect huge amounts of data on the things we
20 buy, on the websites we visit, on the places we go and, most troubling of all, on our children."⁴
21
22
23

24 ³ Allison Gordon & Pamela Brown, *Surgeon General says 13 is 'too early' to join social media*,
25 CNN (Jan. 29, 2023), <https://www.cnn.com/2023/01/29/health/surgeon-general-social-media/index.html>. Exhibits and referenced materials are incorporated in this *Master Complaint* as if fully stated herein.

26 ⁴ Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11,
27 2023), <https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411>.
28

1 12. Students experiencing anxiety, depression, and other mental health issues perform
2 worse in school, are less likely to attend school, more likely to engage in substance use, and to
3 act out, all of which directly affects Plaintiff's ability to fulfill its educational mission.

4 13. Plaintiff, like many school districts across the state and country, is at a breaking
5 point. Meanwhile, Defendants profit tremendously from their wrongful conduct. Plaintiff brings
6 this action to remedy this wrong, hold Defendants accountable, and achieve comprehensive,
7 long-term planning and funding to drive sustained reduction in the mental health crises its
8 students experience at the Defendants' hands.

1 **II. THE PARTIES**

2 **A. PLAINTIFF**

3 14. Plaintiff is the Granville County Public Schools Board of Education (“Plaintiff”),
4 a body corporate, organized and operating under the General Statutes of North Carolina, with
5 general control and supervision of all matters pertaining to the public schools in Granville
6 County Schools. Plaintiff’s offices are located on 101 Delacroix Street, Oxford, North Carolina
7 27565.

8 **B. DEFENDANTS**

9 15. The defendants identified in this section are collectively referred to as
10 “Defendants” throughout this Complaint.

11 **1. Meta**

12 16. Defendant Meta Platforms, Inc. (“Meta Platforms”) is a Delaware corporation and
13 multinational technology conglomerate. Its principal place of business is in Menlo Park, CA.

14 17. Meta Platforms’ subsidiaries include, but may not be limited to, the entities
15 identified in this section, as well as a dozen others whose identity or involvement is presently
16 unclear.

17 18. Defendant Meta Payments, Inc. (“Meta 2”) is a wholly owned subsidiary of Meta
18 Platforms that was incorporated in Florida on December 10, 2010. Meta 2 manages, secures, and
19 processes payments made through Meta Platforms, among other activities. Its principal place of
20 business is in Menlo Park, CA.

21 19. Defendant Facebook Payments, Inc. (“Facebook 1”) is a wholly owned subsidiary
22 of Meta Platforms that was incorporated in Florida on December 10, 2010. Facebook 1 manages,
23 secures, and processes payments made through Meta Platforms, among other activities. Its
24 principal place of business is in Menlo Park, CA.

25 20. Defendant Facebook Holdings, LLC (“Facebook 2”) is a wholly owned subsidiary
26 of Meta Platforms that is a limited liability company registered in Delaware. Facebook 2 is likely
27
28

1 a managing entity for Meta Platforms' other subsidiaries. Meta Platforms is the sole member of
2 this LLC, whose principal place of business is in Menlo Park, CA.

3 21. Defendant Siculus, Inc. ("Siculus") is a wholly owned subsidiary of Meta
4 Platforms that was incorporated in Delaware on October 19, 2011. Siculus constructs data
5 facilities to support Meta Platforms' products. Its principal place of business is in Menlo Park,
6 CA.

7 22. Defendant Facebook Operations, LLC ("Facebook 3") is a wholly owned
8 subsidiary of Meta Platforms that was incorporated in Delaware on January 8, 2012. Facebook 3
9 is likely a managing entity for Meta Platforms' other subsidiaries. Meta Platforms is the sole
10 member of this LLC, whose principal place of business is in Menlo Park, CA.

11 23. Defendant Instagram, LLC ("Instagram, LLC") launched an app called Instagram
12 in October 2010. On or around April 7, 2012, Meta Platforms purchased Instagram, LLC for
13 over one billion dollars and reincorporated the company in Delaware. Meta Platforms is the sole
14 member of this LLC, whose principal place of business is in Menlo Park, CA.

15 24. Meta Platforms, Meta 2, Instagram, Siculus, Facebook 1, Facebook 2, and
16 Facebook 3 are referred to jointly as "Meta."

17 25. Meta owns, operates, controls, produces, designs, maintains, manages, develops,
18 tests, labels, markets, advertises, promotes, supplies, and distributes digital products available
19 through mobile- and web-based applications ("apps"), including Instagram and Facebook
20 (together, "Meta products"); Messenger; and Messenger Kids. Meta's apps and devices are
21 widely distributed to consumers throughout the United States.

22 **2. Snap**

23 26. Defendant Snap Inc. ("Snap") is a Delaware corporation. Its principal place of
24 business is in Santa Monica, CA.

25 27. Snap owns, operates, controls, produces, designs, maintains, manages, develops,
26 tests, labels, markets, advertises, promotes, supplies, and distributes the app Snapchat. Snapchat
27 is widely available to consumers throughout the United States.
28

1 **3. ByteDance**

2 28. Defendant ByteDance Ltd. is a global company incorporated in the Cayman
3 Islands. Its principal place of business is in Beijing, China. ByteDance Ltd. also maintains
4 offices in the United States, Singapore, India, and the United Kingdom, among other locations.

5 29. ByteDance Ltd. wholly owns its subsidiary Defendant ByteDance Inc., a
6 Delaware corporation whose principal place of business is in Mountain View, CA.

7 30. ByteDance Ltd.’s key Chinese subsidiary is Beijing Douyin Information Service
8 Limited, f/k/a Beijing ByteDance Technology Co. Ltd. (“Beijing ByteDance”).⁵ Beijing
9 ByteDance owns, operates, and holds key licenses to Douyin, the Chinese version of TikTok. On
10 or around April 30, 2021, the Chinese government took a 1% stake in, and received one of three
11 seats on the board of directors of, Beijing ByteDance.⁶ Specifically, 1% of Beijing ByteDance is
12 now owned by WangTouZhongWen (Beijing) Technology, which in turn is owned by China
13 Internet Investment Fund (China’s top Internet regulator and censor), China Media Group
14 (China’s national broadcaster, controlled by the Chinese Communist Party’s propaganda
15 department), and the Beijing municipal government’s investment arm.

16 31. ByteDance Ltd. wholly owns its subsidiary Defendant TikTok, Ltd., a Cayman
17 Island corporation with its principal place of business in Shanghai, China.

18 32. TikTok, Ltd. wholly owns its subsidiary Defendant TikTok, LLC which is, and at
19 all relevant times was, a Delaware limited liability company.

20 33. TikTok, LLC wholly owns its subsidiary Defendant TikTok, Inc. f/k/a Musical.ly,
21 Inc. (“TikTok, Inc.”), a California corporation with its principal place of business in Culver City,
22 CA.

23 ⁵ See Sophie Webster, *ByteDance Changes Names of Subsidiaries to Douyin, Speculated to be*
24 *Mulling an IPO*, Tech Times (May 8, 2022), available at
25 <https://www.techtimes.com/articles/275188/20220508/bytedance-changes-names-subsidiaries-douyin-speculated-mulling-ipo.htm>.

26 ⁶ See Juro Osawa & Shai Oster, *Beijing Tightens Grip on ByteDance by Quietly Taking Stake,*
27 *China Board Seat*, The Information (Aug. 16, 2021), available at
28 <https://www.theinformation.com/articles/beijing-tightens-grip-on-bytedance-by-quietly-taking-stake-china-board-seat?rc=ubpjcg>.

1 34. Defendants TikTok, Ltd.; TikTok, LLC; TikTok, Inc.; ByteDance Ltd.; and
2 ByteDance Inc. are referred to jointly as “ByteDance.”

3 35. ByteDance owns, operates, controls, produces, designs, maintains, manages,
4 develops, tests, labels, markets, advertises, promotes, supplies, and distributes the app TikTok.
5 TikTok is widely available to consumers throughout the United States.

6 **4. Google**

7 36. Google Inc. was incorporated in California in September 1998 and reincorporated
8 in Delaware in August 2003. In or around 2017, Google Inc. converted to a Delaware limited
9 liability company, Defendant Google, LLC (together with its predecessor-in-interest Google Inc.,
10 “Google”). Google’s principal place of business is in Mountain View, CA.

11 37. Since 2006, Google has operated, done business as, and wholly owned as its
12 subsidiary Defendant YouTube, LLC (“YouTube, LLC”). YouTube, LLC is a Delaware limited
13 liability company with its principal place of business in San Bruno, CA. YouTube is widely
14 available to consumers throughout the United States.⁷

15 38. On October 2, 2015, Google reorganized and became a wholly owned subsidiary
16 of a new holding company, Alphabet Inc., a Delaware corporation with its principal place of
17 business in Mountain View, CA.

18 39. Google, LLC and YouTube, LLC (together, “Google”) are alter egos of one
19 another: together and in concert they own, operate, control, produce, design, maintain, manage,
20 develop, test, label, market, advertise, promote, supply, and distribute the app YouTube.

21 **III. JURISDICTION AND VENUE**

22 40. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C.
23 § 1332(a) because: (i) the amount in controversy exceeds \$75,000, exclusive of interests and
24 costs, and (ii) the plaintiff and defendants are citizens of different states.

25
26 ⁷ See, e.g., Alphabet Inc., *Form 10-Q*, Oct. 25, 2022, at 4 (defining Alphabet as “Alphabet Inc.
27 and its subsidiaries.”), available at
28 <https://www.sec.gov/Archives/edgar/data/1652044/000165204422000090/goog-20220930.htm>.

1 41. This Court has personal jurisdiction over each Defendant as each Defendant
2 purposefully availed itself of the privilege of exploiting forum-based business opportunities and
3 the exercise of personal jurisdiction is consistent with N.C. GEN. STAT. § 1-75.4 (2008). This
4 Court also has personal jurisdiction over Defendants under 18 U.S.C. §1964(c).

5 42. Venue is proper pursuant to 28 U.S.C. §1391 because a substantial part of the
6 events or omissions giving rise to the claims asserted herein arose in this District and Defendants
7 are subject to personal jurisdiction in this District.

8 **IV. FACTUAL ALLEGATIONS**

9 **A. DEFENDANTS’ APPS HAVE CREATED A YOUTH MENTAL HEALTH**
10 **CRISIS.**

11 43. Nearly a decade of scientific and medical studies demonstrate that dangerous
12 features engineered into Defendants’ platforms—particularly when used multiple hours a day—
13 can have a “detrimental effect on the psychological health of [their] users,” including compulsive
14 use, addiction, body dissatisfaction, anxiety, depression, and self-harming behaviors such as
15 eating disorders.⁸

16 44. Addiction and compulsive use of Defendants’ products can entail a variety of
17 behavioral problems including but not limited to: (1) a lessening of control, (2) persistent,
18 compulsive seeking out of access to the product, (3) using the product more, and for longer, than
19 intended, (4) trying to cut down on use but being unable to do so, (5) experiencing intense
20 cravings or urges to use, (6) tolerance (needing more of the product to achieve the same desired
21 effect), (7) developing withdrawal symptoms when not using the product, or when the product is
22 taken away, (8) neglecting responsibilities at home, work, or school because of the intensity of
23 usage, (9) continuing to use the product even when doing so interferes and causes problems with

24 ⁸ See, e.g., Fazida Karim et al., *Social Media Use and Its Connection to Mental Health: A*
25 *Systemic Review*, Cureus Volume 12(6) (June 15, 2020),
26 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/>; Alexandra R. Lonergan et al., *Protect*
27 *me from my selfie: Examining the association between photo-based social media behaviors and*
28 *self-reported eating disorders in adolescence*, Int. J. of Eating Disorders 756 (Apr. 7, 2020),
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

1 important family and social relationships, (10) giving up important or desirable social and
2 recreational activities due to use, and (11) continuing to use despite the product causing
3 significant harm to the user's physical and mental health.

4 45. Many of these injuries can be long-lasting, if not lifelong. For example, the long-
5 term effects of eating disorders can include: (1) dermatological effects to the nails and hair;
6 (2) gastrointestinal illnesses, such as gastroparesis or hypomotility of the colon; (3) impacts to
7 the endocrine system, such as glycolic or metabolic conditions, bone loss, and hormonal
8 conditions; (4) nervous system effects, such as gray matter brain loss or atrophy; (5) skeletal
9 system effects, such as bone loss; (6) cardiovascular effects, such as structural heart damage,
10 mitral valve prolapse, or fluid around the heart; and (7) fertility issues.⁹

11 46. Each Defendant has long been aware of this research, but chose to ignore or brush
12 it off.

13 47. Scientists have studied the impacts of the overuse of social media since at least
14 2008, with social media addiction recognized in literature around that time after a pervasive
15 upsurge in Facebook use.¹⁰ The *Bergen Social Media Addiction Scale* assesses social media
16 addiction along six core elements: 1) salience (preoccupation with the activity), 2) mood
17 modification (the behavior alters the emotional state), 3) tolerance (increasing activity is needed
18 for the same mood-altering effects), 4) withdrawal (physical or psychological discomfort when
19 the behavior is discontinued), 5) conflict (ceasing other activities or social interaction to perform
20

21
22
23 ⁹ See, e.g., Anorexia Nervosa, Cleveland Clinic
24 <https://my.clevelandclinic.org/health/diseases/9794-anorexia-nervosa#outlook--prognosis>;
25 Bulimia Nervosa; Cleveland Clinic <https://my.clevelandclinic.org/health/diseases/9795-bulimia-nervosa#symptoms-and-causes>.

26 ¹⁰ Tim Davies & Pete Cranston, *Youth Work and Social Networking: Interim Report*, The
27 National Youth Agency (May 2008),
28 https://www.researchgate.net/publication/233911484_Youth_Work_and_Social_Networking_Final_Research_Report.

1 the behavior), and 6) relapse (resuming the behavior after attempting to control or discontinue
2 it).¹¹

3 48. Beginning in at least 2014, researchers began demonstrating that addictive and
4 compulsive use of Defendants' apps leads to negative mental and physical outcomes for kids.

5 49. In 2014, a study of 10- to 12-year-old girls found that increased use of Facebook
6 was linked with body image concerns, the idealization of thinness, and increased dieting.¹² (This
7 study was sent to Mark Zuckerberg in 2018, in a letter signed by 118 public health advocates.)¹³

8 50. In 2016, a study demonstrated that young people who frequently use Defendants'
9 apps are more likely to suffer sleep disturbances than their peers who use them infrequently.¹⁴
10 Defendants' products, driven by intermittent variable rewards ("IVR") algorithms, as described
11 below, deprive users of sleep by sending push notifications and emails at night, prompting
12 children to re-engage with the apps when they should be sleeping. Disturbed and insufficient
13 sleep is associated with poor health outcomes,¹⁵ including increased risk of major depression—
14 by a factor of more than three—¹⁶and future suicidal behavior in adolescents.¹⁷ The American
15

16 ¹¹ Cecilie Andreassen et al., *The relationship between addictive use of social media and video*
17 *games and symptoms of psychiatric disorders: a large-scale cross-sectional study*, 30(2)
18 *Psychol. of Addictive Behav.*, 252-262 (2016), <http://dx.doi.org/10.1037/adb0000160>.

18 ¹² Marika Tiggemann & Amy Slater, *NetTweens: The Internet and body image concerns in*
19 *preteenage girls*, 34(5), *J. Early Adolesc.* 606-620 (June 2014),
20 <https://journals.sagepub.com/doi/epub/10.1177/0272431613501083>.

19 ¹³ Campaign for a Commercial-Free Childhood, *Letter to Mark Zuckerberg Re: Facebook*
20 *Messenger Kids* (Jan. 30, 2018), <https://fairplayforkids.org/wp-content/uploads/archive/develop-gaw/FBMessengerKids.pdf>.

21 ¹⁴ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance*
22 *Among Young Adults*, 85 *Preventive Med.* 36-41 (Apr. 2016),
23 <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

23 ¹⁵ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance*
24 *Among Young Adults*, 85 *Preventive Med.* 36-41 (Apr. 2016),
25 <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>; National Institute of
26 Mental Health. 2016. The teen brain: 6 things to know, *available at*
27 <https://www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml>; R. Sather & A. Shelat, *Understanding the teen brain*,
28 <https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=3051>

27 ¹⁶ E. Roberts & H Doung, *The Prospective Association between Sleep Deprivation and*
28 *Depression among Adolescents* *Sleep*, Volume 37, Issue 2, 1 Feb. 2014.

1 Academy of Sleep Medicine has recommended that, in a 24-hour period, children aged 6–12
2 years should regularly sleep 9–12 hours and teenagers aged 13–18 years should sleep 8–10
3 hours.¹⁸

4 51. In another 2016 study, 52% of girls said they use image filters every day, and
5 80% reported using an app to change their appearance before the age of 13.¹⁹ In fact, 77% of
6 girls reported trying to change or hide at least one part of their body before posting a photo of
7 themselves, and 50% believe they did not look good enough without editing.²⁰

8 52. In 2017, British researchers asked 1,500 teens to rate how Instagram, Snapchat,
9 and YouTube affected them on certain well-being measures, including anxiety, loneliness, body
10 image, and sleep.²¹ Teens rated all three platforms as having a negative impact on body image,
11 “FOMO” (fear of missing out), and sleep. Teens also noted that Instagram and Snapchat had a
12 negative impact on anxiety, depression, and loneliness.

13 53. In 2018, a *Journal of Social and Clinical Psychology* study examined a group of
14 college students whose use of Instagram, Facebook, and Snapchat was limited to 10 minutes per
15 day per platform. The study found that this limited-use group showed “significant reductions in
16

17
18 ¹⁷ X. Liu, D. Buysse, *Sleep and youth suicidal behavior: a neglected field*, *Current Opinion in*
19 *Psychiatry* (May 2006).

20 ¹⁸ S. Paruthi, L. Brooks, C. D’Ambrosio, et al, *Consensus statement of the American Academy of*
21 *Sleep Medicine on the recommended amount of sleep for healthy children: methodology and*
22 *discussion*, 12 *J Clin Sleep Med* 1549–61 (2016).

23 ¹⁹ Anna Haines, *From “Instagram Face” to “Snapchat Dysmorphia”*: *How Beauty Filters Are*
24 *Changing the Way We See Ourselves*, *Forbes* (Apr. 27, 2021),
25 [https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff)
26 [dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff).

27 ²⁰ Anna Haines, *From “Instagram Face” to “Snapchat Dysmorphia”*: *How Beauty Filters Are*
28 *Changing the Way We See Ourselves*, *Forbes* (Apr. 27, 2021),
[https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff)
[dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff).

²¹ Royal Society for Public Health, *#StatusOfMind*,
<https://www.rsph.org.uk/static/uploaded/d125b27c-0b62-41c5-a2c0155a8887cd01.pdf>; *see also*
Jonathan Haidt, *The Dangerous Experiment on Teen Girls*, *The Atlantic* (Nov. 21, 2021),
available at [https://www.theatlantic.com/ideas/archive/2021/11/facebooks-dangerous-](https://www.theatlantic.com/ideas/archive/2021/11/facebooks-dangerous-experiment-teen-girls/620767/)
[experiment-teen-girls/620767/](https://www.theatlantic.com/ideas/archive/2021/11/facebooks-dangerous-experiment-teen-girls/620767/).

1 loneliness and depression over three weeks” compared to a control group that used social media
2 as usual.²²

3 54. In 2018, a systematic literature review of nine studies published in the *Indian*
4 *Journal of Psychiatry* concluded that dangerous features in social networking platforms
5 “contribute to increased exposure to and engagement in self-harm behavior, as users tend to
6 emulate self-injurious behavior of others online, adopt self-injurious practices from self-harm
7 videos, or are encouraged and acclaimed by others, thus normalizing self-injurious thoughts and
8 behavior.”²³

9 55. A 2019 survey of American adolescents ages 12-14 found that a user’s
10 displeasure with their body could be predicted based on their frequency of using social media
11 (including Instagram and Facebook) and based on the extent to which they engaged in behaviors
12 that adopt an observer’s point-of-view (such as taking selfies or asking others to “rate one’s
13 looks”). This effect was more pronounced among girls than boys.²⁴

14 56. A third study in 2019 of more than 6500 American adolescents ranging in age
15 from 12 to 15 years old found that those who used social media for 3 hours or more per day were
16 more likely to suffer from mental health problems such as anxiety and depression.²⁵ Notably, this
17 association remained significant even *after* adjusting for demographics, past alcohol and
18 marijuana use, and history of mental health problems.²⁶

19 ²² Melissa G. Hunt et al., *No More FOMO: Limiting Social Media Decreases Loneliness and*
20 *Depression*, 37 J. of Social & Clinical Psych. (Dec. 5, 2018),
<https://guilfordjournals.com/doi/epdf/10.1521/jscp.2018.37.10.751>.

21 ²³ Aksha Memon et al., *The role of online social networking on deliberate self-harm and*
22 *suicidality in adolescents: a systematized review of literature*, 60(4) *Indian J Psychiatry* 384-392
(Oct-Dec 2018), http://10.4103/psychiatry.IndianJPsychiatry_414_17.

23 ²⁴ Ilyssa Salomon & Christia Spears Brown, *The Selfie Generation: Examining the Relationship*
24 *Between Social Media Use and Early Adolescent Body Image*, *Journal of Early Adolescence*
(Apr. 21, 2018), <https://journals.sagepub.com/doi/abs/10.1177/0272431618770809>.

25 ²⁵ Kira Riehm et al., *Associations between time spent using social media and internalizing and*
26 *externalizing problems among US youth*, 76(12) *JAMA Psychiatry* (2019),
<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480>.

27 ²⁶ Kira Riehm et al., *Associations between time spent using social media and internalizing and*
28 *externalizing problems among US youth*, 76(12) *JAMA Psychiatry* (2019),
<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480>.

1 57. In 2020, a study of Australian adolescents found that investment in others’ selfies
2 (through likes and comments) was associated with greater odds of meeting criteria for
3 clinical/subclinical bulimia nervosa, clinical/subclinical binge-eating disorder, night eating
4 syndrome, and unspecified feeding and eating disorders.²⁷

5 58. In 2020, a longitudinal study investigated whether “Facebook Addiction
6 Disorder” predicted suicide-related outcomes, and found that children and adolescents addicted
7 to Facebook are more likely to engage in self-injurious behavior, such as cutting and suicide.²⁸

8 59. In 2020, clinical research demonstrated an observable link between youth social
9 media use and disordered eating behavior.²⁹ The more time young girls spend using Defendants’
10 products, the more likely they are to develop disordered eating behaviors.³⁰ And the more social
11 media accounts adolescents have, the more disordered eating behaviors they exhibit.³¹

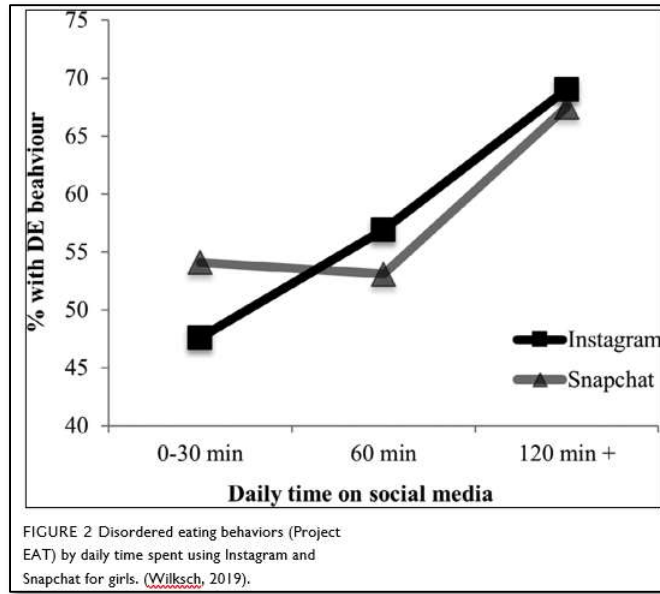
17
18 ²⁷ Alexandra R. Lonergan et al., *Protect Me from My Selfie: Examining the Association Between*
19 *Photo-Based Social Media Behaviors and Self-Reported Eating Disorders in Adolescence*, Int’l
20 J. of Eating Disorders (Apr. 7, 2020),
21 <https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256>.

22 ²⁸ See, e.g., Julia Brailovskaia et al., *Positive mental health mediates the relationship between*
23 *Facebook addiction disorder and suicide-related outcomes: a longitudinal approach*, 00(00)
24 *Cyberpsychology, Behavior, and Social Networking* (2020),
25 <https://doi.org/10.1089/cyber.2019.0563>; Jean M. Twenge et al., *Increases in Depressive*
26 *Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010*
27 *and Links to Increased New Media Screen Time*, 6 *Clinical Psych. Sci.* 3–17 (2018).

28 ²⁹ Simon M. Wilksch et al., *The relationship between social media use and disordered eating in*
29 *young adolescents*, 53 Int’l J. Eating Disorders 96–106 (2020),
30 <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

31 ³⁰ Simon M. Wilksch et al., *The relationship between social media use and disordered eating in*
32 *young adolescents*, 53 Int’l J. Eating Disorders 96–106 (2020),
33 <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

34 ³¹ Simon M. Wilksch et al., *The relationship between social media use and disordered eating in*
35 *young adolescents*, 53 Int’l J. Eating Disorders 96–106 (2020),
36 <https://pubmed.ncbi.nlm.nih.gov/31797420/>.



60. Eating disorders often occur simultaneously with other self-harm behaviors such as cutting and are often associated with suicide.³²

61. In a 2021 study, female undergraduates were randomly shown thinspiration (low body mass index and not muscular), fitspiration (muscular and exercising), or neutral photos.³³ Thinspiration and fitspiration images lowered self-esteem, even in those with a self-perceived healthy weight.³⁴

62. A 2022 study of Italian adolescent girls (12-17) and young women (18-28) found that Instagram’s image editing and browsing features, combined with an emphasis on influencer interactions, promulgated unattainable body ideals that caused users to compare their bodies to those ideals.³⁵ These trends were more prominent among adolescent girls, given their higher

³² Sonja Swanson et al., *Prevalence and correlates of eating disorders in adolescents*, 68(7) Arch Gen Psychiatry 717-723 (2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5546800/>.

³³ Karikarn Chansiri & Thipkanok Wongphothipphan, *The indirect effects of Instagram images on women’s self-esteem: The moderating roles of BMI and perceived weight*, 00(0) New Media & Society 1-23 (2021), <https://journals.sagepub.com/doi/epub/10.1177/14614448211029975>.

³⁴ Karikarn Chansiri & Thipkanok Wongphothipphan, *The indirect effects of Instagram images on women’s self-esteem: The moderating roles of BMI and perceived weight*, 00(0) New Media & Society 1-23 (2021), <https://journals.sagepub.com/doi/epub/10.1177/14614448211029975>.

³⁵ Federica Pedalino and Anne-Linda Camerini, *Instagram use and body dissatisfaction: The mediating role of upward social comparison with peers and influencers among young females*,

1 susceptibility to social pressures related to their bodies and given the physical changes associated
2 with puberty.

3 63. In 2023, a study of magnetic resonance images demonstrated that compulsive use
4 of Defendants' apps measurably alters children's brains.³⁶ This study measured fMRI responses
5 in 12-year-old adolescents who used Facebook, Instagram, and Snapchat over a three-year period
6 and found that neural patterns diverged. Specifically, those who engaged in high social media
7 checking behavior "showed lower neural sensitivity to social anticipation" than those who
8 engaged in low to moderate checking behavior.³⁷

9 64. Defendants' apps have triggered depression, anxiety, eating disorders, self-harm,
10 and suicidality among thousands of children. Defendants have created a crisis.

11 65. From 2009 to 2019, the rate of high school students who reported persistent
12 sadness or hopelessness increased by 40% (to one out of every three kids).³⁸ The share of kids
13 who seriously considered suicide increased by 36%, and those that created a suicide plan
14 increased by 44%.³⁹

15 66. From 2007 to 2019, suicide rates among youth aged 10-24 in the United States
16 increased by 57%.⁴⁰

18 19(3) *Int'l J of Environmental Research and Public Health* 1543 (2022),
19 <https://www.mdpi.com/1660-4601/19/3/1543>.

20 ³⁶ Maria Maza et al., *Association of habitual checking behaviors on social media with*
longitudinal functional brain development, *JAMA Ped.*, (Jan. 3, 2023),
21 <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

22 ³⁷ Maria Maza et al., *Association of habitual checking behaviors on social media with*
longitudinal functional brain development, *JAMA Ped.*, (Jan. 3, 2023),
23 <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812>.

24 ³⁸ *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory* at 8, U.S. Dep't Health
& Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

25 ³⁹ *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory* at 8, U.S. Dep't Health
& Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

26 ⁴⁰ *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory* at 8, U.S. Dep't Health
& Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

1 67. From 2007 to 2016, emergency room visits for youth aged 5-17 rose 117% for
2 anxiety disorders, 44% for mood disorders, and 40% for attention disorders.⁴¹

3 68. By 2019, one-in-five children aged 3-17 in the United States had a mental,
4 emotional, developmental, or behavioral disorder.⁴² Mental health issues are particularly acute
5 among females.⁴³

6 69. On December 7, 2021, the United States Surgeon General issued an advisory on
7 the youth mental health crisis.⁴⁴ The Surgeon General explained, “[m]ental health challenges in
8 children, adolescents, and young adults are real and widespread. Even before the pandemic, an
9 alarming number of young people struggled with feelings of helplessness, depression, and
10 thoughts of suicide—and rates have increased over the past decade.”⁴⁵ Those “mental health
11 challenges were the leading cause of disability and poor life outcomes in young people.”⁴⁶

14 ⁴¹ Charmaine Lo, *Children’s mental health emergency department visits: 2007-2016*, 145(6)
15 *Pediatrics* e20191536 (June 2020), <https://doi.org/10.1542/peds.2019-1536>.

16 ⁴² *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
17 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
18 [https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)
19 [further-exposed-by-covid-19-pandemic/](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/); see also Jean M. Twenge et al., *Increases in Depressive*
20 *Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010*
21 *and Links to Increased New Media Screen Time*, 6 *Clinical Psych. Sci.* 3–17 (2017),
22 <https://doi.org/10.1177/216770261772337> (noting that mental health issues are particularly acute
23 among females).

24 ⁴³ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
25 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
26 [https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)
27 [further-exposed-by-covid-19-pandemic/](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)

28 ⁴⁴ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
29 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
30 [https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)
31 [further-exposed-by-covid-19-pandemic/](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/).

32 ⁴⁵ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
33 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
34 [https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)
35 [further-exposed-by-covid-19-pandemic/](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)

36 ⁴⁶ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
37 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 14, 2021),
38 [https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)
39 [further-exposed-by-covid-19-pandemic/](https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic/)

1 70. On February 13, 2023, the CDC released new statistics revealing that, in 2021,
2 one in three girls seriously considered attempting suicide.⁴⁷

3 As discussed herein, each of the Defendants’ products manipulates minor users’ brains by
4 building in stimuli and social reward mechanisms (e.g., “Likes”) that cause users to
5 compulsively seek social rewards. That, in turn, leads to neuroadaptation; a child requires more
6 and more stimuli to obtain the desired dopamine release, along with further impairments of
7 decision-making. It also leads to reward-seeking through increasingly extreme content, which is
8 more likely to generate intense reactions from other users. These consequences are the
9 foreseeable results of Defendants’ engineering decisions.

10 **B. DEFENDANTS TARGET CHILDREN AS A CORE MARKET, HOOKING**
11 **KIDS ON THEIR ADDICTIVE SOCIAL MEDIA PLATFORMS.**

12 71. Each Defendant designs, engineers, markets, and operates its products to
13 maximize the number of children who download and use them compulsively. Children are more
14 vulnerable users and have more free time on their hands than their adult counterparts. Because
15 children use Defendants’ products more, they see more ads, and as a result generate more ad
16 revenue for Defendants. Young users also generate a trove of data about their preferences, habits,
17 and behaviors. That information is Defendants’ most valuable commodity. Defendants mine and
18 commodify that data, including by selling to advertisers the ability to reach incredibly narrow
19 tranches of the population, including children. Each Defendant placed its app(s) into the stream
20 of commerce and generated revenues through the distribution of those apps at the expense of the
21 consuming public.

22 72. Addicting young children and teens is central to Defendants’ profitability. Like
23 the cigarette industry a generation earlier, Defendants understand that a child user today becomes
24 an adult user tomorrow. Indeed, Defendants’ insatiable appetite for growth has created a need for
25

26 ⁴⁷ Azeen Ghorayashi & Roni Caryn Rabin, *Teen Girls Report Record Levels of Sadness, C.D.C.*
27 *Finds*, N.Y. Times (Feb. 13, 2023), <https://www.nytimes.com/2023/02/13/health/teen-girls-sadness-suicide-violence.html>.

1 younger and younger users. Defendants’ wrongfully acquired knowledge of their childhood
2 userbase has allowed them to develop product designs to target elementary school-age children,
3 who are uniquely vulnerable. Like Joe Camel of old, Defendants’ recent attempts to capture pre-
4 adolescent audiences include “kid versions” of apps that are “designed to fuel [kids’] interest in
5 the grown-up version.”⁴⁸

6 73. Recognizing the vulnerability of children under 13, particularly in the Internet
7 age, Congress enacted the Children’s Online Privacy Protection Act (“COPPA”) in 1999.⁴⁹
8 COPPA regulates the conditions under which Defendants can collect, use, or disclose the
9 personal information of children under 13. Under COPPA, developers of apps and websites that
10 are directed to or known to be used by children under 13 cannot lawfully obtain the individually
11 identifiable information of such children without first obtaining verifiable consent from their
12 parents.⁵⁰ Even apart from COPPA, it is well established under the law that children lack the
13 legal or mental capacity to make informed decisions about their own well-being.

14 74. COPPA was enacted precisely because Congress recognized that children under
15 age 13 are particularly vulnerable to being taken advantage of by unscrupulous website
16 operators. As a June 1998 report by the FTC observed, “[t]he immediacy and ease with which
17 personal information can be collected from children online, combined with the limited capacity
18 of children to understand fully the potentially serious safety and privacy implications of
19 providing that information, have created deep concerns about current information practices
20

21 ⁴⁸ Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022),
22 <https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->.

23 ⁴⁹ See 15 U.S.C. §§ 6501-6506.

24 ⁵⁰ The FTC recently clarified that acceptable methods for obtaining verifiable parent consent
25 include: (a) providing a form for parents to sign and return; (b) requiring the use of a credit/card
26 online payment that provides notification of each transaction; (c) connecting to trained personnel
27 via video conference; (d) calling a staffed toll-free number; (e) asking knowledge-based
28 questions; or (f) verifying a photo-ID from the parent compared to a second photo using facial
recognition technology. Federal Trade Commission, *Complying with COPPA: Frequently Asked
Questions*, July 2020, [https://www.ftc.gov/business-guidance/resources/complying-coppa-
frequently-asked-questions](https://www.ftc.gov/business-guidance/resources/complying-coppa-frequently-asked-questions).

1 involving children online.”⁵¹ The same report observed that children under the age of 13
2 “generally lack the developmental capacity and judgment to give meaningful consent to the
3 release of personal information to a third party.”⁵²

4 75. Contemporaneous testimony by the Chairman of the FTC observed that the
5 Internet “make[s] it easy for children to disclose personal information to the general public
6 without their parents’ awareness or consent. Such public disclosures raise safety concerns.”⁵³
7 Further, “the practice of collecting personal identifying information directly from children
8 without parental consent is clearly troubling, since it teaches children to reveal their personal
9 information to strangers and circumvents parental control over their family’s information.”⁵⁴

10 76. None of the Defendants conduct proper age verification or authentication. Instead,
11 each Defendant leaves it to users to self-report their age. This unenforceable and facially
12 inadequate system allows children under 13 to easily create accounts on Defendants’ apps.

13 77. This is particularly egregious for two reasons. *First*, Defendants have long been
14 on notice of the problem. For instance, in May 2011, Consumer Reports reported the “troubling
15 news” that 7.5 million children under 13 were on Facebook.⁵⁵ *Second*, given that Defendants
16 have developed and utilized age-estimation algorithms for the purpose of selling user data and
17 targeted advertisements, Defendants could readily use these algorithms to prevent children under
18

19
20 ⁵¹ *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13.
21 <https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf>.

22 ⁵² *Privacy Online: A Report to Congress*, Federal Trade Commission (1998) at 13.
23 <https://www.ftc.gov/sites/default/files/documents/reports/privacy-online-report-congress/priv-23a.pdf>.

24 ⁵³ S. 2326, Children’s Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen.
25 Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105th Cong.
26 11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

27 ⁵⁴ S. 2326, Children’s Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen.
28 Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105th Cong.
11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

⁵⁵ Emily Bazelon, *Why Facebook is After Your Kids*, N.Y. Times (Oct. 12,
2011), <https://www.nytimes.com/2011/10/16/magazine/why-facebook-is-after-your-kids.html>.

1 13 from accessing their products, but choose not to do so. Instead, they have turned a blind eye
2 to collecting children’s data in violation of COPPA.

3 78. Defendants have done this because children are financially lucrative, particularly
4 when they are addicted to Defendants’ apps.

5 **1. Children are uniquely susceptible to Defendants’ addictive apps.**

6 79. Young people are not only Defendants’ most lucrative market, but are also those
7 most vulnerable to harms resulting from Defendants’ products. “Everyone innately responds to
8 social approval.”⁵⁶ “[B]ut some demographics, in particular teenagers, are more vulnerable to it
9 than others.”⁵⁷ Unlike adults, who “tend to have a fixed sense of self that relies less on feedback
10 from peers,”⁵⁸ adolescents are in a “period of personal and social identity formation” that “is now
11 reliant on social media.”⁵⁹

12 80. To understand the impact Defendants’ apps have on young people, it is helpful to
13 understand some basics about the human brain.

14 81. The frontal lobes of the brain—particularly the prefrontal cortex—control higher-
15 order cognitive functions. This region of the brain is central to planning and executive decision-
16 making, including the evaluation of risk and reward. It also helps inhibit impulsive actions and
17 “regulate emotional responses to social rewards.”⁶⁰

18
19 _____
20 ⁵⁶ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
<https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

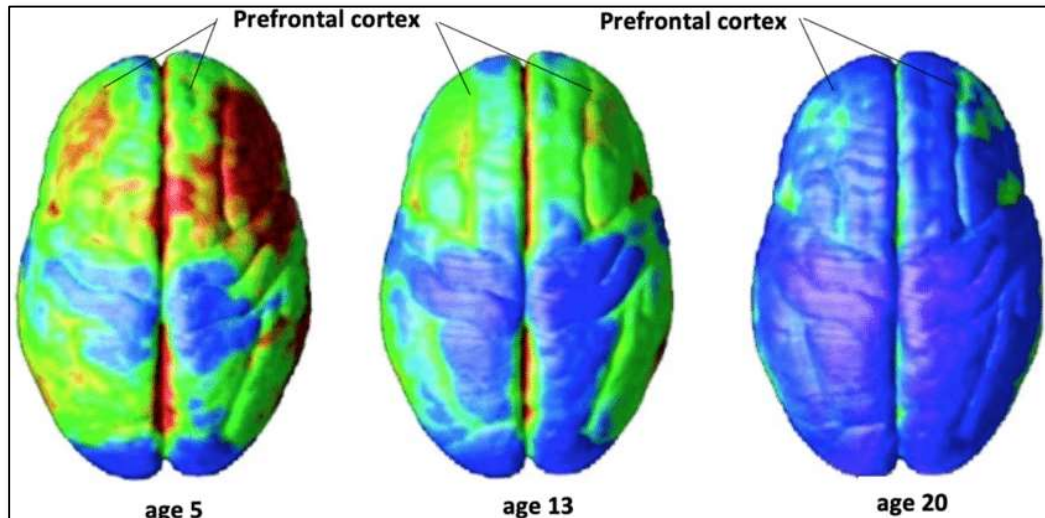
21 ⁵⁷ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
<https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

22 ⁵⁸ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
23 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

24 ⁵⁹ Betül Keles et al., *A systematic review: the influence of social media on depression, anxiety*
25 *and psychological distress in adolescents*, Int’l J. Adolescence & Youth (202) 25:1, 79–93 (Mar.
26 3, 2019), https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents.

27 ⁶⁰ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
28 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

1 82. Children and adolescents are especially vulnerable to developing harmful
2 behaviors because their prefrontal cortex is not fully developed.⁶¹ Indeed, it is one of the last
3 regions of the brain to mature.⁶² In the images below, the blue color depicts brain development.⁶³



13 83. Because of the immaturity of their prefrontal cortex, young people have less
14 impulse control, and less ability to regulate their responses to social rewards, than adults.

15 84. Beginning around the age of 10, the brain also begins to change in important
16 ways. Specifically, the receptors for dopamine multiply in the subcortical region of the brain.⁶⁴
17 Dopamine is a neurotransmitter that is central to the brain's reward system.⁶⁵

20 ⁶¹ Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated
21 mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC
Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

22 ⁶² Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated
23 mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC
Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

24 ⁶³ Heiner Boettger, & Deborah Koeltesch, , *The fear factor: Xenoglossophobia or how to
25 overcome the anxiety of speaking foreign languages*, 4, Training Language and Culture, 43-55
(June 2020), [https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-
26 PFC_fig1_342501707](https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-PFC_fig1_342501707).

27 ⁶⁴ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

28 ⁶⁵ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

1 85. During this developmental phase, the brain learns to seek out stimuli (e.g.,
2 Instagram) that result in a reward (e.g., likes) and cause dopamine to flood the brain’s reward
3 pathways. Each time this happens, associations between the stimulus and the reward become
4 stronger.⁶⁶ Notably, once the brain has learned to make this association, dopaminergic neurons
5 “shift their ... activation from the time of reward delivery to the time of presentation of [a]
6 predictive cue.”⁶⁷ In other words, the anticipation of a reward can itself trigger a dopamine rush.

7 86. As New York University professor and social psychologist Adam Alter has
8 explained, product features such as “Likes” give users a dopamine hit similar to drugs and
9 alcohol: “The minute you take a drug, drink alcohol, smoke a cigarette . . . when you get a like
10 on social media, all of those experiences produce dopamine, which is a chemical that’s
11 associated with pleasure. When someone likes an Instagram post, or any content that you share,
12 it’s a little bit like taking a drug. As far as your brain is concerned, it’s a very similar
13 experience.”⁶⁸

14 87. When the release of dopamine in young brains is manipulated by Defendants’
15 products, it interferes with the brain’s development and can have long-term impacts on an
16 individual’s memory, affective processing, reasoning, planning, attention, inhibitory control, and
17 risk-reward calibration.

18 88. Given their limited capacity to self-regulate and their vulnerability to peer
19 pressure, children (including teens) are at greater risk of developing a mental disorder from use
20

21 ⁶⁶ See Bryo Adinoff, *Neurobiologic processes in drug reward and addiction*, 12(6) Harv. Rev.
22 Psychiatry 305-320 (2004), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1920543/>.

23 ⁶⁷ Luisa Speranza et al., Dopamine: The Neuromodulator of Long-Term Synaptic Plasticity,
24 Reward and Movement Control, 10 Cells 735 (2021),
25 <https://pubmed.ncbi.nlm.nih.gov/33810328/>.

26 ⁶⁸ Eames Yates, *What happens to your brain when you get a like on Instagram*, Business Insider
27 (Mar. 25, 2017), <https://www.businessinsider.com/what-happens-to-your-brain-like-instagram-dopamine-2017-3>; see also Sören Krach et al., *The rewarding nature of social interactions*, 4(22)
28 Frontiers in Behav. Neuro., (28 May 2010),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2889690/pdf/fnbeh-04-00022.pdf>; Julian Morgans, *The Secret Ways Social Media Is Built for Addiction*, Vice (May 17, 2017),
<https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

1 of Defendants' products.⁶⁹ Children are more susceptible than adults to feelings of withdrawal
2 when a dopamine hit wears off. Depending on the intensity, delivery, and timing of the stimulus,
3 and the severity of its withdrawal, these feelings can include anxiety, dysphoria, and irritability.⁷⁰
4 Children also are more likely to engage in compulsive behaviors to avoid these symptoms, due to
5 their limited capacity for self-regulation, relative lack of impulse control, and struggle to delay
6 gratification.

7 89. This leads to a vicious cycle. Repeated spikes of dopamine over time may cause a
8 child to build up a tolerance for the stimulus. In this process of "neuroadaptation," the production
9 of dopamine and the sensitivity of dopamine receptors are both reduced.⁷¹ As a consequence, the
10 child requires more and more of the stimulus to feel the same reward. Worse, this cycle can
11 cause decreases in activity in the prefrontal cortex, leading to further impairments of decision-
12 making and executive functioning.⁷²

13 90. As described further below, each Defendant deliberately designed, engineered,
14 and implemented dangerous features in their apps that present social-reward and other stimuli in
15 a manner that has caused so many young users to compulsively seek out those stimuli, develop
16 negative symptoms when they were withdrawn, and exhibit reduced impulse control and
17 emotional regulation.

20 ⁶⁹ Betül Keles et al., *A systematic review: the influence of social media on depression, anxiety*
21 *and psychological distress in adolescents*, Int'l J. Adolescence & Youth (202) 25:1, 79–93 (Mar.
22 3, 2019), https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents

23 ⁷⁰ George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8)
24 Lancet Psychiatry 760-773 (2016),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

25 ⁷¹ George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8)
26 Lancet Psychiatry 760-773 (2016),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

27 ⁷² George Koob & Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8)
28 Lancet Psychiatry 760-773 (2016),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf>.

1 91. In short, children find it particularly difficult to exercise the self-control required
2 to regulate their use of Defendants’ platforms, given the stimuli and rewards embedded in those
3 apps, and as a foreseeable consequence tend to engage in addictive and compulsive use.⁷³

4 **2. Defendants design their apps to attract and addict youth.**

5 92. Instagram, Facebook, TikTok, Snap, and YouTube employ many similar
6 defective and dangerous product features that are engineered to induce more use by young
7 people—creating an unreasonable risk of compulsive use and addiction.⁷⁴ For instance, all five
8 apps harvest user data and use this information to generate and push algorithmically tailored
9 “feeds” of photos and videos. And all five include methods through which approval can be
10 expressed and received, such as likes, hearts, comments, shares, or reposts. This section explains
11 the psychological and social mechanisms exploited by these and other product defects.

12 93. *First*, Defendants’ apps are designed and engineered to methodically, but
13 unpredictably, space out dopamine-triggering rewards with dopamine gaps. The unpredictability
14 is key because, paradoxically, intermittent variable rewards (or “IVR”) create stronger
15 associations (conditioned changes in the neural pathway) than fixed rewards. Products that use
16 this technique are highly addictive or habit forming.

17 94. IVR is based on insights from behavioral science dating back to research in the
18 1950s by Harvard psychologist B. F. Skinner. Skinner found that laboratory mice respond most
19 voraciously to unpredictable rewards. In one famous experiment, mice that pushed a lever
20 received a variable reward (a small treat, a large treat, or no treat at all). Compared with mice
21 who received the same treat every time, the mice who received only occasional rewards were
22

23 ⁷³ Fulton Crews et al., *Adolescent cortical development: a critical period of vulnerability for*
24 *addiction*, 86 *Pharmacology, Biochemistry and Behavior* 189-199 (2007),
<https://www.sciencedirect.com/science/article/pii/S009130570600400X>.

25 ⁷⁴ See Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of*
26 *Flattery*, Gizmodo (Aug. 16, 2022), [https://gizmodo.com/instagram-tiktok-snapchat-facebook-](https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419)
27 [meta-1849395419](https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419) (“Over the last decade, some of the most popular social media apps have
28 blatantly ripped off features from some of the other most popular social media apps, in a tech
version of Capture the Flag where the only losers are the users who are forced to persist through
this cat-and-mouse game.”).

1 more likely to exhibit addictive behaviors such as pressing the lever compulsively. This
2 exploitation of neural circuitry is exactly how addictive products like slot machines keep users
3 coming back.

4 95. The IVR aspect of slot machines is limited by the fact that they deliver rewards in
5 a randomized manner, irrespective of the person pulling the lever. By contrast, Defendants' apps
6 are designed to purposely withhold and release rewards on a schedule its algorithms have
7 determined is optimal to heighten a specific user's craving and keep them using the product. For
8 example, TikTok will at times delay a video it knows a user will like until the moment before it
9 anticipates the user would otherwise log out. Instagram's notification algorithm will at times
10 determine that a particular user's engagement will be maximized if the app withholds "Likes" on
11 their posts and then later delivers them in a large burst of notifications.

12 96. Defendants' use of IVR is particularly effective on and dangerous for adolescents,
13 given the incomplete aspects of their brain maturation described above—including lack of
14 impulse control and reduced executive functions.

15 97. There are multiple types of dopamine neurons that are connected with distinct
16 brain networks and have distinct roles in motivational control. Apart from the dopamine reward
17 loop triggered by positive feedback, other dopamine neurons are impacted by salient but non-
18 rewarding stimuli and even painful-aversive stimuli.⁷⁵ Defendants' apps capitalize on this by
19 algorithmically ranking photos and videos that "engage" users because they present a dopamine
20 pay-off, including novel, aversive, and alarming images.

21 98. *Second*, there are multiple types of dopamine neurons that are connected with
22 distinct brain networks and have distinct roles in motivational control. Apart from the dopamine
23 reward loop triggered by positive feedback, other dopamine neurons are impacted by salient but
24 non-rewarding stimuli and even painful-aversive stimuli.⁷⁶ Defendants' apps capitalize on this by

25 ⁷⁵ J.P.H. Verharen, Yichen Zhu, and Stephan Lammel *Aversion hot spots in the dopamine system*
26 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

27 ⁷⁶ J.P.H. Verharen, Yichen Zhu, and Stephan Lammel *Aversion hot spots in the dopamine system*
28 64 *Neurobiology* 46-52 (March 5, 2020) <https://doi.org/10.1016/j.conb.2020.02.002>.

1 algorithmically ranking photos and videos that “engage” users because they present a dopamine
2 pay-off, including novel, aversive, and alarming images.

3 99. *Third*, dangerous and defective features in Defendants’ apps manipulate young
4 users through their exploitation of “reciprocity”—the psychological phenomenon by which
5 people respond to positive or hostile actions in kind. Reciprocity means that people respond in a
6 friendly manner to friendly actions, and with negative retaliation to hostile actions.⁷⁷ Phillip
7 Kunz best illustrated the powerful effect of reciprocity through an experiment using holiday
8 cards. Kunz sent cards to a group of complete strangers, including pictures of his family and a
9 brief note.⁷⁸ People whom he had never met or communicated with before reciprocated, flooding
10 him with holiday cards in return.⁷⁹ Most of the responses did not even ask Mr. Kunz who he
11 was—they simply responded to his initial gesture with a reciprocal action.⁸⁰

12 100. Products like Instagram and Snapchat exploit reciprocity by, for example,
13 automatically telling a sender when their message is seen, instead of letting the recipient avoid
14 disclosing whether it was viewed. Consequently, the recipient feels more obligated to respond
15 immediately, keeping users on the product.⁸¹

16 101. *Fourth*, Defendants’ apps addict young users by preying on their already-
17 heightened need for social comparison and interpersonal feedback-seeking.⁸² Because of their

18 ⁷⁷ Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3)
19 J. Econ. Persps. 159–81 (2000), https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf.

20 ⁷⁸ Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) Soc.
21 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

22 ⁷⁹ Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) Soc.
23 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

24 ⁸⁰ Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) Soc.
25 Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

26 ⁸¹ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
27 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

28 ⁸² Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and
Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*,
43 J. Abnormal Child Psych. 1427–38 (2015),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>.

1 relatively undeveloped prefrontal cortex, young people are already predisposed to status
2 anxieties, beauty comparisons, and a desire for social validation.⁸³ Defendants’ apps encourage
3 repetitive usage by dramatically amplifying those insecurities.

4 102. Mitch Prinstein, Chief Science Officer for the American Psychology Association,
5 has explained that online and real-world interactions are fundamentally different.⁸⁴ For example,
6 in the real world, no public ledger tallies the number of consecutive days friends speak.
7 Similarly, “[a]fter you walk away from a regular conversation, you don’t know if the other
8 person liked it, or if anyone else liked it.”⁸⁵ By contrast, a product defect like the “Snap Streak”
9 creates exactly such artificial forms of feedback.⁸⁶ On Defendants’ apps, friends and even
10 complete strangers can deliver (or withhold) dopamine-laced likes, comments, views, or
11 follows.⁸⁷

12 103. The “Like” on Facebook, Instagram, TikTok, and YouTube or other comparable
13 features common to Defendants’ products has an especially powerful effect on teenagers and can
14 neurologically alter their perception of online posts. Researchers at UCLA used magnetic
15 resonance imaging to study the brains of teenage girls as they used Instagram. They found that
16 girls’ perception of a photo changed depending on the number of likes it had generated.⁸⁸ That an
17 image was highly liked—regardless of its content—instinctively caused the girls to prefer it. As

18 ⁸³ Susan Harter, *The Construction of the Self: Developmental and Sociocultural Foundations*
19 (Guilford Press, 2d ed., 2012) (explaining how, as adolescents move toward developing cohesive
20 self-identities, they typically engage in greater levels of social comparison and interpersonal
feedback-seeking).

21 ⁸⁴ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

22 ⁸⁵ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

23 ⁸⁶ A “Snap Streak” is designed to measure a user’s Snapchat activity with another user. Two
24 users achieve a “Snap Streak” when they exchange at least one Snap in three consecutive 24-
hour periods. When successively longer “Streaks” are achieved, users are rewarded with varying
tiers of emojis.

25 ⁸⁷ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
(Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

26 ⁸⁸ Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on*
27 *Neural and Behavioral Responses to Social Media*, 27(7) Psychol Sci. 1027
(2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>

1 the researchers put it, teens react to perceived “endorsements,” even if likes on social media are
2 often fake, purchased, or manufactured.⁸⁹

3 104. The design of Defendants’ apps also encourages unhealthy, negative social
4 comparisons, which in turn cause body image issues and related mental and physical disorders.
5 Given adolescents’ naturally vacillating levels of self-esteem, they are already predisposed to
6 comparing “upward” to celebrities, influencers, and peers they perceive as more popular.⁹⁰
7 Defendants’ apps turbocharge this phenomenon. On Defendants’ apps, users disproportionately
8 post “idealized” content,⁹¹ misrepresenting their lives. That is made worse by appearance-
9 altering filters built into Defendants’ apps, which underscore conventional (and often racially
10 biased) standards of beauty, by allowing users to remove blemishes, make bodies and faces
11 appear thinner, and lighten skin-tone. Defendants’ apps provide a continuous stream of these
12 filtered and fake appearances and experiences.⁹² That encourages harmful body image
13
14

15 ⁸⁹ Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on*
16 *Neural and Behavioral Responses to Social Media*, 27(7) *Psychol Sci.* 1027 (2016),
17 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>; see also Stuart Wolpert, *The teenage*
18 *brain on social media*, UCLA Newsroom (May 31, 2016),
19 <https://newsroom.ucla.edu/releases/the-teenage-brain-on-social-media>.

20 ⁹⁰ Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and*
21 *Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*,
22 43 *J. Abnormal Child Psych.* 1427–38 (2015),
23 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/> (“Upward comparison occurs when
24 people compare themselves to someone they perceive to be superior[], whereas a downward
25 comparison is defined by making a comparison with someone perceived to be inferior[.]”); Jin-
26 Liang wang, Hai-Zhen Wang, James Gaskin, & Skyler Hawk, *The Mediating Roles of Upward*
27 *Social Comparison and Self-esteem and the Moderating Role of Social Comparison Orientation*
28 *in the Association between Social Networking Site Usage and Subjective Well-Being*, *Frontiers in*
Psychology (May 2017),
<https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20compariso>
[n%20can%20be%20upward,inferior%20\(Wills%2C%201981\)](https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00771/full#:~:text=Social%20compariso).

⁹¹ Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and*
Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms,
43 *J. Abnormal Child Psych.* 1427–38 (2015),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>;

⁹² Jin Kyun Lee, *The Effects of Social Comparison Orientation on Psychological Well-Being in*
Social Networking Sites: Serial Mediation of Perceived Social Support and Self-Esteem, *Current*
Psychology (2020), <https://link.springer.com/content/pdf/10.1007/s12144-020-01114-3.pdf>.

1 comparisons by adolescents, who begin to negatively perceive their own appearance and believe
2 their bodies, and indeed their lives, are comparatively worse.⁹³

3 105. *Fifth*, Defendants’ respective product features work in combination to create and
4 maintain a user’s “flow-state”: a hyper-focused, hypnotic state, where bodily movements are
5 reflexive and the user is totally immersed in smoothly rotating through aspects of the social
6 media product.⁹⁴

7 106. As discussed in more detail below, defective features like the ones just described
8 can cause or contribute to the following injuries in young people: eating and feeding disorders;
9 depressive disorders; anxiety disorders; sleep disorders; trauma- and stressor-related disorders;
10 obsessive-compulsive and related disorders; disruptive, impulse-control, and conduct disorders;
11 suicidal ideation; self-harm; and suicide.⁹⁵

12 **3. Millions of kids use Defendants’ products compulsively.**

13 107. Defendants have been staggeringly successful in their efforts to attract young
14 users to their apps. In 2021, 32% of 7- to 9-year-olds,⁹⁶ 49% of 10- to 12-year-olds,⁹⁷ and 90% of
15

16
17 ⁹³ Jin Kyun Lee, *The Effects of Social Comparison Orientation on Psychological Well-Being in*
Social Networking Sites: Serial Mediation of Perceived Social Support and Self-Esteem, *Current*
Psychology (2020), <https://link.springer.com/content/pdf/10.1007/s12144-020-01114-3.pdf>. See
18 also Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated*
mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3, *BMC*
Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (explaining that youth are
19 particularly vulnerable because they “use social networking sites for construing their identity,
20 developing a sense of belonging, and for comparison with others”); Jin Lee, *The effects of social*
comparison orientation on psychological well-being in social networking sites: serial mediation
of perceived social support and self-esteem, 41 *Current Psychology* 6247-6259 (2022),
21 <https://doi.org/10.1007/s12144-020-01114-3>.

22 ⁹⁴ See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the*
World’s Latest Social Media Craze, Brown Undergraduate J. of Pub. Health
23 (2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/> (describing how IVR and
24 infinite scrolling may induce a flow state in users).

25 ⁹⁵ E.g., Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated*
mediation model of problematic Facebook use, age, neuroticism, and extraversion at 3, *BMC*
Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (collecting sources).

26 ⁹⁶ *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child’s Hosp. Univ. Mich.
27 Health (Oct. 18, 2021),
https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

1 13- to 17-year-olds in the United States used social media.⁹⁸ A majority of U.S. teens use
2 Instagram, TikTok, Snapchat, and/or YouTube. Thirty-two percent say they “wouldn’t want to
3 live without” YouTube, while 20% said the same about Snapchat, and 13% said the same about
4 both TikTok and Instagram.⁹⁹

5 108. U.S. teenagers who use Defendants’ products are likely to use them every day.
6 Sixty-two percent of U.S. children ages 13-18 use social media daily.¹⁰⁰ And daily use often
7 means constant use. About one-in-five U.S. teens visit or use YouTube “almost constantly,”
8 while about one-in-six report comparable usage of Instagram.¹⁰¹ Nearly half of U.S. teens use
9 TikTok at least “several times a day.”¹⁰² In one study, U.S. teenage users reported checking
10 Snapchat thirty times a day on average.¹⁰³

13 ⁹⁷ *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child’s Hosp. Univ. Mich.
14 Health (Oct. 18, 2021),
15 https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

16 ⁹⁸ *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018),
17 [https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx)
18 [Media-and-Teens-100.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx); *see also* Victoria Rideout et al., *The Common Sense Census: Media*
19 *Use by Tweens and Teens, 2021* at 5, Common Sense Media (2022),
20 [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf)
21 [report-final-web_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

22 ⁹⁹ Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31,
23 Common Sense Media (2022),
24 [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf)
25 [report-final-web_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

26 ¹⁰⁰ Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 31,
27 Common Sense Media (2022),
28 [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf)
[report-final-web_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

¹⁰¹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
2022), [https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/)
[2022/](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/).

¹⁰² Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
2022), [https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/)
[2022/](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/).

¹⁰³ Erinn Murphy et al., *Taking Stock with Teens, Fall 2021* at 13, Piper Sandler (2021),
<https://tinyurl.com/89ct4p88>; *see also* Emily Vogels et al., *Teens, Social Media and Technology*
2022, Pew Rsch. Ctr. (Aug. 10, 2022), [https://www.pewresearch.org/internet/2022/08/10/teens-](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/)
[social-media-and-technology-2022/](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/).

1 109. Teenagers know they are addicted to Defendants’ products: 36% admit they spend
2 too much time on social media.¹⁰⁴ Yet they can’t stop. Of the teens who use at least one social
3 media product “almost constantly,” 71% say quitting would be hard. Nearly one-third of this
4 population—and nearly one-in-five of *all* teens—say quitting would be “very hard.”¹⁰⁵

5 110. Notably, the more teens use Defendants’ apps, the harder it is to quit. Teens who
6 say they spend too much time on social media are almost twice as likely to say that giving up
7 social media would be hard, compared to teens who see their social media usage as about
8 right.¹⁰⁶

9 111. Despite using social media frequently, most young people don’t particularly enjoy
10 it. In 2021, only 27% of boys and 42% of girls ages 8-18 reported liking social media “a lot.”¹⁰⁷
11 Moreover, one survey found that young people think social media is the main reason youth
12 mental health is getting worse.¹⁰⁸ About twice as many of the surveyed youth believed that social
13 media is the main reason for declining mental health than the next likely cause, and over *seven*
14 *times* more believed it to be the main cause rather than drugs and alcohol.¹⁰⁹

17 ¹⁰⁴ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
18 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

19 ¹⁰⁵ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
20 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

21 ¹⁰⁶ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
22 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

23 ¹⁰⁷ Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 34,
24 Common Sense Media (2022), https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

25 ¹⁰⁸ *Headspace (2018) National youth mental health survey 2018*, National Youth Mental Health
26 Foundation (2018), <https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf>

27 ¹⁰⁹ *Headspace National Youth Mental Health Survey 2018*, National Youth Mental Health
28 Foundation (2018), <https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf> (surveying more than 4,000 Australians ages 12-25).

1 4. **Defendants’ defective products encourage dangerous “challenges.”**

2 112. Dangerous “viral” challenges are one particularly pernicious result of the
3 defective design of Defendants’ apps. “Online challenges or dares typically involve people
4 recording themselves doing something difficult, which they share online to encourage others to
5 repeat.”¹¹⁰ These challenges often generate significant engagement—sometimes millions of likes
6 or views—and resulting social rewards to the users who post videos of themselves carrying out
7 the challenges. Predictably, a substantial portion of online challenges—created for the purpose of
8 generating social rewards—are very dangerous.

9 113. For example, one common social media challenge is the “Blackout Challenge,”
10 where youth are encouraged to make themselves faint by holding their breath and constricting
11 their chest muscles, or by restricting airflow with a ligature around their neck. This challenge is
12 dangerous because, should the participant fail to remove the ligature around their neck prior to
13 fainting, they may strangle themselves. Similarly, an “I Killed Myself” challenge involves
14 participants faking their own deaths to record their family members’ reactions upon believing
15 their loved one has died. This challenge is dangerous because certain methods of participating
16 can actually kill (or inflict catastrophic injury) on participants. Likewise, the game Russian
17 Roulette—in which a participant loads a revolver with a single bullet, spins the chamber until it
18 falls on a random slot, and then shoots themselves—has taken on new life as a social media
19 challenge.

20 114. Again, these injuries and deaths are a foreseeable consequence of Defendants’
21 addictive product designs. Many other addictive products cause injury or death because
22 neuroadaptation causes addicts to use increasingly extreme methods to maintain dopamine
23 levels. That compulsive use of social media would do the same was, at all relevant times,
24 foreseeable, particularly as to young users whose abilities to assess risks, make wise decisions,
25 and regulate their responses to perceived social needs are still developing.

26
27 ¹¹⁰ TikTok, *Online Challenges*, [https://www.tiktok.com/safety/en-us/online-challenges/..](https://www.tiktok.com/safety/en-us/online-challenges/)

1 115. Defendants are perfectly aware of the foreseeable risks to youth presented by their
2 apps’ “viral” promotion of dangerous challenges.

3 116. Defendants have encouraged the viral challenge phenomenon in spite of the fact
4 that their encouragement furthers dangerous challenges themselves and a broader ecosystem in
5 which those dangerous challenges occur.

6 117. Meta, TikTok, and YouTube use engagement-optimized algorithms to control
7 users’ main feeds. Such algorithms spread extreme content as a consequence of its propensity to
8 generate engagement. That design defect foreseeably leads to dangerous challenges spreading
9 easily on these Defendants’ platforms.

10 118. Defendants have further encouraged challenges in other ways. ByteDance
11 regularly creates overlays and filters that facilitate viral challenges. It offers advertisers the
12 ability to launch Branded Hashtag Challenges and promotes them on user feeds.¹¹¹ It boasts that
13 challenges are “geared towards building awareness and engagement,” and that “research shows
14 that they can deliver strong results”—i.e., increased return on ad spending—“at every stage of
15 the funnel.” This, in turn, generates advertising revenue for ByteDance.

16 119. Snap also promotes viral challenges through Snapchat’s Snap Spotlight feature. It
17 gives cash prizes to challenge participants whose challenges receive the most views on Snap
18 Spotlight.¹¹² It has also created overlays that encourage challenges—such as a Speed Filter,
19 showing how fast a given user was going at the time they took a particular Snap.¹¹³ Other
20 Defendants have also promoted viral challenges based on a recognition that such challenges
21 drive engagement and advertising revenue.

22
23
24 ¹¹¹ TikTok for Business, *Branded Hashtag Challenge: Harness the Power of Participation* (Mar.
25 16, 2022), [https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-
26 power-of-participation](https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation).

27 ¹¹² “Snapchat adds ‘challenges’ with cash prizes to its TikTok competitor,” *The Verge*, Oct. 6,
28 2021, [https://www.theverge.com/2021/10/6/22711632/snapchat-spotlight-challenges-announced-
cash-prizes-tiktok](https://www.theverge.com/2021/10/6/22711632/snapchat-spotlight-challenges-announced-cash-prizes-tiktok).

¹¹³ *See Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1085 (9th Cir. 2021).

1 **5. Defendants’ defective social media apps facilitate and contribute to**
2 **the sexual exploitation and sextortion of children, and the ongoing**
3 **production and spread of child sex abuse material online.**

4 120. It is well documented that sexual predators use Defendants’ products to target and
5 exploit minors. They are drawn to social media because it provides them with easy access to a
6 large pool of potential victims, many of whom are addicted to Defendants’ products. On
7 February 7, 2023, for example, the FBI and international law enforcement agencies issued a joint
8 warning about the global “financial sextortion crisis” which stated: “Financial sextortion can
9 happen anywhere, although it mainly occurs on the digital platforms where children are already
10 spending their screen time, like social media and gaming websites, or video chat applications. On
11 these platforms, predators often pose as girls of a similar age and use fake accounts to target
12 young boys, deceiving them into sending explicit photos or videos. The predator then threatens
13 to release the compromising materials unless the victim sends payment, however, in many cases,
14 the predator will release the images anyway.”¹¹⁴

15 121. Rather than mitigate the risk of sexual exploitation and harm to children and teens
16 on their products, Defendants have facilitated and exacerbated it by implementing defective
17 product features that help sexual predators connect with children. Defendants’ products are
18 designed in unsafe ways—including, as to some or all Defendants, flawed age verification, lack
19 of meaningful mechanisms to prevent sham accounts, default-public profiles, matching and
20 recommending connections between adults and minors, promoting unsolicited messages and
21 interactions from adults, and wholly inadequate and ineffective parental controls, among
22 others—that allow children to be easily identified, targeted, accessed, and exploited.

23 122. Compounding the problem, Defendants routinely fail to report abuse. Steve
24 Grocki, the U.S. Department of Justice’s Chief of the Criminal Division’s Child Exploitation &
25 Obscenity Section, put it this way: “A lot of times, someone has come across something

26 ¹¹⁴ International Law Enforcement Agencies Issue Joint Warning about global financial
27 sextortion crisis, FBI (2023), <https://www.fbi.gov/news/press-releases/international-law-enforcement-agencies-issue-joint-warning-about-global-financial-sextortion-crisis>.
28

1 problematic and the platform isn't doing anything[.]” He went on to say, “[t]hese reports can be
2 of great value because they signal where there are big problems and we can flag those issues to
3 Internet companies, such as when products are being exploited by offenders, they aren't meeting
4 reporting requirements, or when children under the age restriction are accessing inappropriate
5 content.”¹¹⁵

6 123. By failing to implement adequate age and identity verification on the products,
7 Defendants knowingly and foreseeably place children in the pathways of sexual predators, who
8 utilize their products and exploit their defective design features. Age verification on Defendants'
9 products can be defective for a variety of reasons, including:

- 10 a. Inaccurate information: Users can easily enter false information, such as a
11 fake date of birth, to bypass age restrictions;
- 12 b. No measures to prevent sham accounts: Defendants' products are
13 structured so that users can easily create multiple accounts under different
14 names and ages; and
- 15 c. Incomplete implementation: Defendants' products only partially
16 implement age verification, such as requiring users to provide their date of
17 birth but not verifying it through any means.

18 124. To be sure, Defendants possess the technology to identify minors who are posing
19 as adults and adults who are posing as minors, but they do not use this information to identify
20 violative accounts and remove them from their products.

21 125. For example, by making minors' profiles public by default, certain Defendants
22 have supplied sexual predators with detailed background information about children, including
23 their friends, activities, interests, and even location. By providing this information, these
24 Defendants put children at risk of being approached and befriended by sexual predators. These
25

26 ¹¹⁵ Equality Now, *Steve Grocki Expert Interview - United States* (Nov. 15, 2021),
27 <https://www.equalitynow.org/stories/steve-grocki-expert-interview-united-states/>.

1 young targets had no idea that their posts, friends, pictures, and general online sharing
2 represented a windfall of information that a predator could use to sexually exploit or abuse them.

3 126. Meta, ByteDance, and Google are aware of these very real risks that public-by-
4 default accounts for minors can cause by leaving minors broadly exposed to adult strangers, and
5 yet have only recently (in response to litigation) begun to create default privacy settings for
6 youth accounts—even though they have been aware of these harmful interactions for years.

7 127. Defendants have also lagged behind in restricting who can reach minor users
8 through Direct Message features.

9 128. Defendants' parental controls are also defective in giving parents effective control
10 over their children's online activity, which can lead to kids connecting with predators. These
11 defects take several forms:

- 12 a. Limited scope: parental control tools only partially cover a child's activity,
13 leaving gaps that predators can exploit;
- 14 b. Inadequate monitoring: parental control tools do not provide real-time
15 monitoring of a child's activity, meaning that harmful interactions with
16 predators go unnoticed;
- 17 c. Lack of customization: parents are not able to fully customize their
18 parental control settings to meet the specific needs of their family and
19 children, leaving them with a one-size-fits-all solution that is wholly
20 ineffective in preventing connections with predators; and
- 21 d. Opt-in format: parental control tools that require parents to affirmatively
22 link to their child's account are futile when parents are not notified that
23 their minor child has opened an account on the platform in the first place.

24 129. Defendants are well aware that vulnerable young users—whom Defendants
25 induce to spend large amounts of time on their products, through a powerful combination of
26 algorithmic recommendations and addictive features designed to make it hard for a user to
27 disengage—are uniquely susceptible to grooming by seasoned sexual predators. Research shows
28

1 that young users are heavily reliant on their social connections—exploring and shaping their
2 identity through their social relationships.

3 130. Defendants’ defective product features have benefited sexual predators in many
4 other ways as well. For example, sexual predators leverage Defendants’ use of ephemeral,
5 “disappearing” technology to assure young users that there is no risk to them sending a sexual
6 photo or video. Trusting young users are then horrified to discover that these videos have been
7 captured by predators and then circulated to their own friends and contacts or other sexual
8 predators. In some severe cases, young users find themselves in the nightmarish scheme known
9 as “sextortion,” where a predator threatens to circulate the sexual images of the minor unless the
10 predator is paid to keep the images under wraps. Law enforcement agencies across the country
11 report that this scheme has become pervasive on Defendants’ products.

12 **C. META MARKETS AND DESIGNS FACEBOOK AND INSTAGRAM TO**
13 **ADDICT YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE**
14 **MENTAL HEALTH CRISIS**

15 **1. Background and overview of Meta’s products.**

16 131. Meta operates and designs Facebook and Instagram, two of the world’s most
17 popular social media products. In 2022, two billion users worldwide were active on Instagram
18 each month, and almost three billion were monthly active users of Facebook.¹¹⁶ This enormous
19 reach has been accompanied by enormous damage for adolescent users.

20 132. Meta understands that its products are used by kids under 13. It understands that
21 its products are addictive. It understands that addictive use leads to problems. And it understands
22 that these problems can be so extreme as to include encounters between adults and minors—and
23 driven largely by a single product defect.¹¹⁷

24
25 ¹¹⁶ Alex Barinka, *Meta’s Instagram Users Reach 2 Billion, Closing In on Facebook*, Bloomberg
26 (Oct. 26, 2022), [https://www.bloomberg.com/news/articles/2022-10-26/meta-s-instagram-users-
reach-2-billion-closing-in-on-facebook](https://www.bloomberg.com/news/articles/2022-10-26/meta-s-instagram-users-reach-2-billion-closing-in-on-facebook).

27 ¹¹⁷ This defect, “People You May Know,” allows adults to connect with minors on Facebook and
28 Instagram.

1 133. Despite this knowledge, and rather than stand up a five-alarm effort to stop the
2 problems created by its products, Meta has abjectly failed at protecting child users of Instagram
3 and Facebook.

4 134. Meta has done next to nothing. And its reason was simple: growth. Taking action
5 would lower usage of (and therefore lower profits earned from) a critical audience segment.

6 135. Meta’s frequent gestures towards youth safety were never serious and always
7 driven by public relations: Meta offered tools to kids and parents, like “time spent,” that it knew
8 presented false data. At the same time, Meta engaged in a cynical campaign to counter-message
9 around the addiction narrative by discrediting existing research as completely made up. Meta
10 knew better. Indeed, both Zuckerberg and Instagram CEO Adam Mosseri heard firsthand from a
11 leading researcher that Instagram and Facebook posed unique dangers to young people.

12 **b. Facebook’s acquisition and control of Instagram.**

13 136. On or around April 6, 2012, Zuckerberg called Kevin Systrom, one of the co-
14 founders of Instagram, offering to purchase his company.¹¹⁸

15 137. Instagram launched as a mobile-only app that allowed users to create, filter, and
16 share photos. On the first day of its release in October 2010, it gained a staggering 25,000
17 users.¹¹⁹ By April 2012, Instagram had approximately 27 million users. When Instagram released
18 an Android version of its app—right around the time of Zuckerberg’s call—it was downloaded
19 more than a million times in less than a day.¹²⁰ Instagram’s popularity is so widespread and
20

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22
23 ¹¹⁸ Nicholas Carlson, *Here’s The Chart That Scared Zuckerberg Into Spending \$1 Billion On Instagram*, Insider (Apr. 14, 2012), <https://www.businessinsider.com/heres-the-chart-that-scared-zuckerberg-into-spending-1-billion-on-instagram-2012-4>.

24 ¹¹⁹ Dan Blystone, *Instagram: What It Is, Its History, and How the Popular App Works*, Investopedia (Oct. 22, 2022), <https://www.investopedia.com/articles/investing/102615/story-instagram-rise-1-photo0sharing-app.asp#:~:text=History%20of%20Instagram>.

25
26 ¹²⁰ Kim-Mai Cutler, *From 0 to \$1 billion in two years: Instagram’s rose-tinted ride to glory*, TechCrunch (Apr. 9, 2012), <https://techcrunch.com/2012/04/09/instagram-story-facebook-acquisition/>.

1 image-based, a new term has grown up around it for the perfect image or place:
2 “Instagrammable.”¹²¹

3 138. On April 9, 2012, just days after Zuckerberg’s overture to Systrom, Facebook,
4 Inc. purchased Instagram, Inc. for \$1 billion in cash and stock. This purchase price was double
5 the valuation of Instagram implied by a round of funding the company closed days earlier.¹²²

6 139. Facebook, Inc. held its initial public offering less than two months after acquiring
7 Instagram, Inc.¹²³

8 140. Zuckerberg’s willingness to pay a premium for Instagram was driven by his
9 instinct that Instagram would be vital to reaching a younger, smartphone-oriented audience—and
10 thus critical to his company’s going-forward success.

11 141. This was prescient. Instagram’s revenue grew exponentially from 2015 to 2022.¹²⁴
12 A study conducted in the second quarter of 2018 showed that, over the prior year, advertisers’
13 spending on Instagram grew by 177%—more than four times the growth of ad spending on
14 Facebook.¹²⁵ Likewise, visits to Instagram rose by 236%, nearly *thirty* times the growth in site
15 visits experienced by Facebook during the same period.¹²⁶ By 2021, Instagram accounted for
16 over half of Meta’s \$50.3 billion in net advertising revenues.¹²⁷

17 ¹²¹ Sarah Frier, *No Filter* 81 (2020).

18 ¹²² Alexia Tsotsis, *Right Before Acquisition, Instagram Closed \$50M At A \$500M Valuation*
19 *From Sequoia, Thrive, Greylock And Benchmark*, TechCrunch (Apr. 9, 2012),
20 <https://techcrunch.com/2012/04/09/right-before-acquisition-instagram-closed-50m-at-a-500m-valuation-from-sequoia-thrive-greylock-and-benchmark/>.

21 ¹²³ Evelyn Rusli & Peter Eavis, *Facebook Raises \$16Billion in I.P.O.*, N.Y. Times (May 17,
22 2012), <https://archive.nytimes.com/dealbook.nytimes.com/2012/05/17/facebook-raises-16-billion-in-i-p-o/>.

23 ¹²⁴ See Josh Constine, *Instagram Hits 1 Billion Monthly Users, Up From 800M in September*,
24 TechCrunch (June 20, 2018), <https://techcrunch.com/2018/06/20/instagram-1-billion-users/>
(showing meteoric rise in monthly active users over period and reporting year-over-year revenue
25 increase of 70% from 2017-2018).

26 ¹²⁵ Merkle, *Digital Marketing Report* 3 (Q2 2018), [https://www.merkleinc.com/thought-](https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018)
27 [leadership/digital-marketing-report/digital-marketing-report-q2-2018](https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018).

28 ¹²⁶ Merkle, *Digital Marketing Report* 19 (Q2 2018), [https://www.merkleinc.com/thought-](https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018)
[leadership/digital-marketing-report/digital-marketing-report-q2-2018](https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018).

¹²⁷ Sara Lebow, *For the First Time, Instagram Contributes Over Half of Facebook’s US Ad*
Revenues, eMarketer (Nov. 2, 2021), [https://www.emarketer.com/content/instagram-contributes-](https://www.emarketer.com/content/instagram-contributes-over-half-of-facebook-us-ad-revenues)
[over-half-of-facebook-us-ad-revenues](https://www.emarketer.com/content/instagram-contributes-over-half-of-facebook-us-ad-revenues).

1 142. Meta has claimed credit for Instagram’s success since its acquisition. Zuckerberg
2 told market analysts that Instagram “wouldn’t be what it is without everything that we put into it,
3 whether that’s the infrastructure or our advertising model.”¹²⁸

4 143. Instagram has become the most popular photo-sharing social media product
5 among teenagers and young adults in the United States. 62% of American teens use Instagram,
6 with 10% of users reporting that they use it “almost constantly.”¹²⁹ Instagram’s young user base
7 has become even more important to Meta as the number of teens using Facebook has decreased
8 over time.¹³⁰

9 144. Facebook’s and Instagram’s success, and the riches they have generated for Meta,
10 have come at an unconscionable cost in human suffering. In September 2021, The Wall Street
11 Journal began publishing internal documents leaked by former Facebook product manager
12 Frances Haugen.¹³¹

13 145. The documents are disturbing. They reveal that, according to Meta’s researchers,
14 13.5% of U.K. girls reported more frequent suicidal thoughts and 17% of teen girls reported
15 worsening eating disorders after starting to use Instagram.¹³² Over 40% of Instagram users who
16

17
18 ¹²⁸ Salvador Rodriguez, *Mark Zuckerberg Is Adamant that Instagram Should Not Be Broken Off*
19 *from Facebook*, CNBC (Oct. 20, 2019), <https://www.cnbc.com/2019/10/30/mark-zuckerberg-is-adamant-that-instagram-should-remain-with-facebook.html>.

20 ¹²⁹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Research. Ctr. (Aug. 10,
21 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>;
22 *see also* Piper Sandler, *Taking Stock With Teens* 19 (Fall 2021),
https://piper2.bluematrix.com/docs/pdf/3bad99c6-e44a-4424-8fb1-0e3adfcdbd1d4.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top (eighty-one percent of teens use Instagram at least once a month).

23 ¹³⁰ Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*,
24 N.Y. Times (Oct. 26, 2021), *available at*
<https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

25 ¹³¹ The collection of Wall Street Journal articles are available online via the following link:
<https://www.wsj.com/articles/the-facebook-files-11631713039?mod=bigtop-breadcrumb>.

26 ¹³² Morgan Keith, *Facebook’s Internal Research Found its Instagram Platform Contributes to*
27 *Eating Disorders and Suicidal Thoughts in Teenage Girls, Whistleblower Says*, Insider (Oct. 3,
28 2021), <https://www.businessinsider.com/facebook-knows-data-instagram-eating-disorders-suicidal-thoughts-whistleblower-2021-10>.

1 reported feeling “unattractive” said that feeling began while using Instagram,¹³³ and 32% of teen
2 girls who already felt bad about their bodies felt even worse because of the app.¹³⁴

3 146. Internal Meta presentations from 2019 and 2020 were unsparing in their
4 conclusions about the harms caused by Instagram: “We make body image issues worse for one in
5 three teen girls.” “Mental health outcomes related to this can be severe.” “Aspects of Instagram
6 exacerbate each other to create a perfect storm.”¹³⁵

7 147. Haugen’s revelations made clear to the public what Meta has long known: in an
8 effort to addict kids and promote usage, Meta’s products exploit the neurobiology of developing
9 brains, and all the insecurities, status anxieties, and beauty comparisons that come along with it.
10 In a bid for higher profits, Meta ignored the harms resulting from its overuse-oriented business
11 model, which are widespread, serious, long-term, and in tragic instances fatal.

12 **2. Meta intentionally encourages youth to use its products and then**
13 **leverages that usage to increase revenue.**

14 148. Facebook and Instagram owe their success to their defective design, including
15 their underlying computer code and algorithms. Meta’s tortious conduct begins before a user has
16 viewed, let alone posted, a single scrap of content.

19 ¹³³ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
20 *Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021),
21 [https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739)
22 [documents-show-11631620739](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739); Facebook Staff, *Teen Girls Body Image and Social Comparison*
23 *on Instagram – An Exploratory Study in the U.S.* 9 (Mar. 26, 2020),
24 [https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-](https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf)
25 [instagram.pdf](https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf).

26 ¹³⁴ Billy Perrigo, *Instagram Makes Teen Girls Hate Themselves. Is That a Bug or a Feature?*,
27 *Time* (Sept. 16, 2021), <https://time.com/6098771/instagram-body-image-teen-girls/>.

28 ¹³⁵ Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for*
Teen Girls, Company Documents Show, Wall St. J. (Sept. 14, 2021),
[https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739)
[documents-show-11631620739](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739); *Teen Girls Body Image and Social Comparison on Instagram –*
An Exploratory Study in the U.S., Wall St. J. (Sept. 29, 2021),
[https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-](https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf)
[instagram.pdf](https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf).

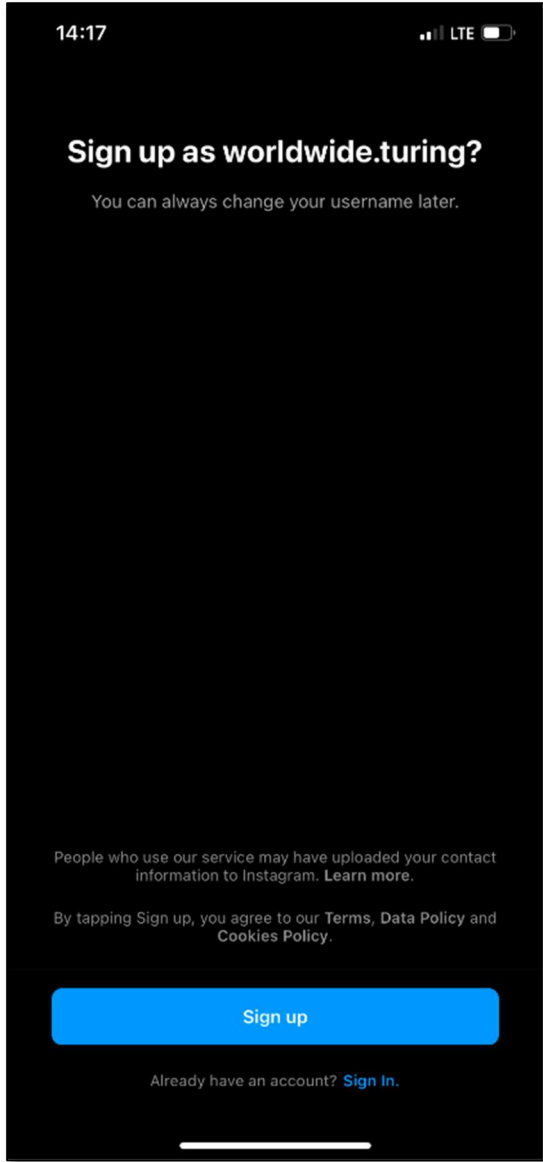
1 149. Meta describes the Instagram product as a “mobile-first experience.”¹³⁶ Indeed,
2 the great majority of Instagram users in the U.S. access Instagram through a mobile application
3 for either the iOS or Android operating system.

4 150. In order to use the Facebook or Instagram app, one must first obtain it. On a
5 mobile device, this is accomplished by visiting a store from which the product can be
6 downloaded—either the Apple App Store (for iPhone users) or the Google Play Store (for
7 Android users). Once installed onto an individual’s smartphone, they can open the app. They are
8 then asked to create a new account by entering an email address, adding a name, and creating a
9 password and username.

10 151. A prospective Instagram or Facebook user is then invited to press a colorful
11 button that says “Sign up.” In small print above this button, the user is informed: “By tapping
12 Sign up, you agree to our Terms, Data Policy and Cookies Policy.” The text of those policies is
13 not presented on the sign-up page. While the words “Terms,” “Data Policy,” and “Cookies
14 Policy” are slightly bolded, the user is not informed that they can or should click on them, or
15 otherwise told how they can access the policies.

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27 ¹³⁶ Yorgos Askalidis, *Launching Instagram Messaging on Desktop*, Instagram (Sept. 25, 2020),
28 <https://about.instagram.com/blog/engineering/launching-instagram-messaging-on-desktop>.

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152. Meta’s Data Policy (rebranded as a “Privacy Policy” in 2022), which applies to a raft of Meta apps, including Facebook and Instagram,¹³⁷ indicates Meta collects a breathtaking amount of data from the users of its products, including:

- a. “[c]ontent that you create, such as posts, comments or audio;”
- b. “[c]ontent you provide through our camera feature or your camera roll settings, or through our voice-enabled features;”

¹³⁷ Meta, *Privacy Policy*, Meta (Jan. 1 2023), <https://mbasic.facebook.com/privacy/policy/printable/#annotation-1>.

- c. “[I]nformation you've shared with us through device settings, such as GPS location, camera access, photos and related metadata;”
- d. “[m]essages that you send and receive, including their content;”
- e. “Metadata about content and messages;”
- f. “[t]ypes of content that you view or interact with, and how you interact with it;”
- g. “[t]he time, frequency and duration of your activities on our products;”
- h. “your contacts' information, such as their name and email address or phone number, if you choose to upload or import it from a device, such as by syncing an address book;”
- i. information about “What you're doing on your device (such as whether our app is in the foreground or if your mouse is moving);”
- j. “device signals from different operating systems,” including “things such as nearby Bluetooth or Wi-Fi connections;”
- k. “[i]nformation about the network that you connect your device to,” which includes “The name of your mobile operator or Internet service provider (ISP), Language, Time zone, Mobile phone number, IP address, Connection speed, Information about other devices that are nearby or on your network, Wi-Fi hotspots you connect to using our products;” and
- l. “information from . . . third parties, including . . . [m]arketing and advertising vendors and data providers, who have the rights to provide us with your information.”

153. While the Data Policy indicates the scope of user information collected by Meta through Facebook and Instagram, it is far less forthcoming about the purposes for which this data is collected, and its consequences for younger users.

154. The Data Policy presents those goals as benign and even positive for its users—“to provide a personalized experience to you” and to “make suggestions for you such as people

1 you may know, groups or events that you may be interested in or topics that you may want to
2 follow.”

3 155. The Data Policy does not inform users that the more time individuals spend using
4 Facebook and Instagram, the more ads Meta can deliver and the more money it can make, or that
5 the more time users spend on Facebook and Instagram, the more Meta learns about them, and the
6 more it can sell to advertisers the ability to micro-target highly personalized ads.¹³⁸

7 156. Meta monetizes its users and their data by selling ad placements to marketers.
8 Meta generated \$69.7 billion from advertising in 2019, more than 98% of its total revenue for the
9 year.¹³⁹

10 157. Given its business model, Meta has every incentive to—and knowingly does—
11 addict users to Facebook and Instagram. It accomplishes this through the algorithms that power
12 its apps, which are designed to induce compulsive and continuous scrolling for hours on end,
13 operating in conjunction with the other defective features described throughout this
14 Complaint.¹⁴⁰

15 ¹³⁸ Nor does it inform users that Meta has allowed third-party apps to harvest from Facebook
16 “vast quantities of highly sensitive user and friends permissions.” *In re Facebook, Inc.*, No. 18-
17 md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). This has included an app called
18 Sync.Me, which—according to Meta’s internal investigative documents—“had access to many
19 ‘heavyweight’ permissions,” “including the user’s entire newsfeed, friends’ likes, friends’
20 statuses, and friends’ hometowns.” *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104
21 at 9 (N.D. Cal. Feb. 9, 2023). It has included Microstrategy, Inc., which accessed data from “16
22 to 20 million” Facebook users, despite only being installed by 50,000 people. *In re Facebook,*
23 *Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). And it has included one
24 Yahoo app that made “billions of requests” for Facebook user information, including “personal
25 information about those users’ friends, including the friends’ education histories, work histories,
26 religions, politics, ‘about me’ sections, relationship details, and check-in posts.” *In re Facebook,*
27 *Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9-10 (N.D. Cal. Feb. 9, 2023).

28 ¹³⁹ Rishi Iyengar, *Here’s How Big Facebook’s Ad Business Really Is*, CNN (July 1, 2020),
<https://www.cnn.com/2020/06/30/tech/facebook-ad-business-boycott>.

¹⁴⁰ See Christian Montag, et al., *Addictive Features of Social Media/Messenger Platforms and
Freemium Games against the Background of Psychological and Economic Theories*, 16 Int’l J.
Env’t Rsch. and Pub. Health 2612, 5 (July 2019),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6679162/> (“One technique used to prolong
usage time in this context is the endless scrolling/streaming feature.”); see generally, Ludmila
Lupinacci, ‘Absentmindedly scrolling through nothing’: liveness and compulsory continuous
connectedness in social media, 43 Media, Culture & Soc’y 273 (2021),
<https://journals.sagepub.com/doi/epdf/10.1177/0163443720939454> (describing the ways that
users use and experience social media apps).

1 158. Meta’s Data Policy contains no warnings whatsoever that use of its products at
2 the intensity and frequency targeted by Meta creates known risks of mental, emotional, and
3 behavioral problems for children, Instagram’s key audience.

4 159. Instagram’s collection and utilization of user data begins the instant a user presses
5 “Sign Up.” At that point, Instagram prompts a new user to share a substantial amount of personal
6 data. First, Instagram asks the user to share their personal contacts, either by syncing contacts
7 from their phone and/or syncing their “Friends” from Facebook—“We’ll use your contacts to
8 help you find your friends and help them find you.” Next, Instagram asks the new user to upload
9 a photo of themselves. After that, Instagram asks the user to “Choose your interests” in order to
10 “Get started on Instagram with account recommendations tailored to you.” And finally,
11 Instagram invites the new user to “Follow accounts to see their photos and videos in your feed,”
12 offering a variety of recommendations. After sign-up is completed, Instagram prompts the new
13 user to post either a photo or a short video.

14 160. Meta’s collection and utilization of user data continues unabated as a new user
15 begins to interact with its products. Meta’s tracking of behavioral data—ranging from what the
16 user looks at, to how long they hover over certain images, to what advertisements they click on
17 or ignore—helps Meta build out a comprehensive and unique fingerprint of the user’s identity.
18 As the user continues to use the product, Meta’s algorithm works silently in the background to
19 refine this fingerprint, by continuously monitoring and measuring patterns in the user’s behavior.
20 Meta’s algorithm is sophisticated enough that it can leverage existing data to draw educated
21 inferences about even the user behavior it does not track firsthand. Meta’s comprehensive data
22 collection allows it to target and influence its users in order to increase their “engagement” with
23 its apps.

24 161. Meta’s collection and analysis of user data allows it to assemble virtual dossiers
25 on its users, covering hundreds if not thousands of user-specific data segments. This, in turn,
26 allows advertisers to micro-target marketing and advertising dollars to very specific categories of
27 users, who can be segregated into pools or lists using Meta’s data segments. Only a fraction of
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1 these data segments come from content knowingly designated by users for publication or
2 explicitly provided by users in their account profiles. Many of these data segments are collected
3 by Meta through covert surveillance of each user's activity while using the product and when
4 logged off the product, including behavioral surveillance that users are unaware of, like
5 navigation paths, watch time, and hover time. Essentially, the larger Meta's user database grows,
6 the more time the users spend on the database, and the more detailed information that Meta can
7 extract from its users, the more money it makes.

8 162. Currently, advertisers can target Instagram and Facebook ads to young people
9 based on age, gender, and location.¹⁴¹ According to U.S.-based non-profit Fairplay, Meta did not
10 actually cease collecting data from teens for advertising in July 2021, as Meta has claimed.¹⁴²

11 163. Meta clearly understands the revenue and growth potential presented by its
12 youngest users, and it is desperate to retain them. Documents obtained by *The New York Times*
13 indicate, that since 2018, almost all of Instagram's \$390 million global marketing budget has
14 gone towards showing ads to teenagers.¹⁴³

15 164. Before the rise of Instagram, Facebook was the social media product by which
16 Meta targeted young users. Until recently, when youth Facebook usage began to drop, this
17 targeting was devastatingly effective.

18 165. While the number of teen Facebook users has declined in recent years, Facebook
19 remains critical to Meta's strategy towards young users. Meta views Facebook as the nexus of
20 teen users' lives on social media, and as filling a similar role for such users as the career-focused
21 social media product LinkedIn fills for adults.

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23 ¹⁴¹ Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*,
Bloomberg (Nov. 16, 2021), [https://news.bloomberglaw.com/privacy-and-data-security/metas-
ad-targeting-to-teens-draws-advocacy-group-opposition](https://news.bloomberglaw.com/privacy-and-data-security/metas-ad-targeting-to-teens-draws-advocacy-group-opposition).

24 ¹⁴² Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*,
Bloomberg (Nov. 16, 2021), [https://news.bloomberglaw.com/privacy-and-data-security/metas-
ad-targeting-to-teens-draws-advocacy-group-opposition](https://news.bloomberglaw.com/privacy-and-data-security/metas-ad-targeting-to-teens-draws-advocacy-group-opposition).

25 ¹⁴³ Sheera Frenkel, et al, *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*
26 N.Y. Times (Oct. 16, 2021), [https://www.nytimes.com/2021/10/16/technology/instagram-
27 teens.html](https://www.nytimes.com/2021/10/16/technology/instagram-teens.html).

1 166. To create this cycle, and notwithstanding restrictions under COPPA, Meta has
2 targeted kids as young as six. The centerpiece of these efforts is Messenger Kids (“MK”).¹⁴⁴

3 167. Meta was also eager to market its products to tweens—users aged 10-12.
4 Although Meta employees publicly denied using children as “guinea pigs” to develop product
5 features, internally Meta was intensely interested in children’s use of their apps.¹⁴⁵

6 168. Meta has studied features and designs from its other products to make Instagram
7 as attractive and addictive as possible to young users. Meta’s flagship product Facebook was the
8 original testing ground for many of Instagram’s addicting and otherwise defective features,
9 which the two products share to this day. This feature overlap is no accident: it represents a
10 conscious strategy adopted by Meta to keep social media users hooked on its “family” of
11 products for their entire lives.

12 169. From the beginning, both the Facebook and Instagram products have exploited
13 vulnerabilities in human psychology to addict users and maximize user time and engagement.
14 Facebook’s first President, Sean Parker, summed up the devastating impact of this product
15 design in a 2017 interview:

16 God only knows what it's doing to our children’s brains. . . . The
17 thought process that went into building these applications,
18 Facebook being the first of them, . . . was all about: ‘How do we
19 consume as much of your time and conscious attention as
20 possible?’ . . . And that means that we need to sort of give you a
21 little dopamine hit every once in a while, because someone liked or
22 commented on a photo or a post And that’s going to get you
23 to contribute more content, and that’s going to get you . . . more
24 likes and comments. . . . It’s a social-validation feedback loop . . .
25 exactly the kind of thing that a hacker like myself would come up
26 with, because you’re exploiting a vulnerability in human
27 psychology. . . . The inventors, creators — it’s me, it’s Mark

24 ¹⁴⁴ Nick Stat, *Facebook launches a version of Messenger for young children*, The Verge
25 (December 4, 2022) <https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview>.

26 ¹⁴⁵ John Twomey, *Molly Russell Inquest Latest: Teenager Viewed Suicide Videos of ‘Most Distressing Nature’*, Express (Sept. 23, 2022),
27 <https://www.express.co.uk/news/uk/1673461/Molly-Russell-inquest-latest-Teenager-suicide-videos-instagram>.

1 [Zuckerberg], it's Kevin Systrom on Instagram, it's all of these
2 people — understood this consciously. And we did it anyway.¹⁴⁶

3 Tellingly, many tech leaders, including individuals with inside knowledge of the defects of
4 Meta's social media products, either ban or severely limit their own children's access to screen
5 time and social media.¹⁴⁷ Such leaders in the field include Tim Cook and former Facebook
6 executives Tim Kendall and Chamath Palihapitiya.¹⁴⁸

7 **3. Meta intentionally designed product features to addict children and**
8 **adolescents.**

9 170. Meta designed Facebook and Instagram with harmful defects that users encounter
10 at every stage of interaction with the product. These defects, which have harmed adolescents that
11 use the products, include but are not limited to: (a) recommendation algorithms, fueled by
12 extensive data collection, which are designed to promote use in quantities and frequency harmful
13 to adolescents; (b) product features that prey upon children's desire for validation and need for
14 social comparison; (c) product features that are designed to create harmful loops of repetitive and
15 excessive product usage; (d) lack of effective mechanisms, despite having the ability to
16 implement them, to restrict children's usage of the products; (d) inadequate parental controls,
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19 ¹⁴⁶ Mike Allen, *Sean Parker unloads on Facebook: "God only knows what it's doing to our
20 children's brains,"* Axios (Nov. 9, 2017), <https://www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792>.

21 ¹⁴⁷ Samuel Gibbs, *Apple's Tim Cook: "I Don't Want My Nephew on a Social Network"*, The
22 Guardian (Jan. 19, 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday;James%20Vincent,Former%20Facebook%20Exec%20Says%20Social%20Media%20is%20Ripping%20Apart%20Society,The%20Verge> (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

24 ¹⁴⁸ Samuel Gibbs, *Apple's Tim Cook: "I Don't Want My Nephew on a Social Network"*, The
25 Guardian (Jan. 19, 2018), <https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday;James%20Vincent,Former%20Facebook%20Exec%20Says%20Social%20Media%20is%20Ripping%20Apart%20Society,The%20Verge> (Dec. 11, 2017), <https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society>.

1 and facilitation of unsupervised use of the products; and (e) intentionally placed obstacles to
2 discourage cessation of use of the products.

3 171. Facebook and Instagram have been designed, maintained, and constantly updated
4 by one of the world's most wealthy, powerful, and sophisticated corporations. Large teams of
5 expert data scientists, user experience (“UX”) researchers, and similar professionals have spent
6 years fine-tuning these products to addict users. Every aspect of the products’ interfaces, each
7 layer of their subsurface algorithms and systems, and each line of underlying code has been
8 crafted by brilliant minds. Every detail—the color of product icons, the placement of buttons
9 within the interface, the timing of notifications, etc.—is designed to increase the frequency and
10 length of use sessions. Therefore, it is impractical to create a comprehensive list of addictive,
11 harm-causing defects in the product until in-depth discovery occurs. Many product features, such
12 as the inner workings of Meta’s algorithms, are secret and unobservable to users. Discovery
13 during this litigation will reveal additional detail about the defective, addictive, and harmful
14 design of Meta’s products.

15 a. **Facebook’s and Instagram’s algorithms maximize engagement,**
16 **promoting use at levels and frequency that is harmful to kids.**

17 172. Meta has invested its vast resources to intentionally design Facebook and
18 Instagram to be addictive to adolescents, all the while concealing these facts from its users and
19 the public.

20 173. In its original form, Meta’s Facebook and Instagram algorithms ranked
21 chronologically, meaning that a particular user’s feed was organized according to when content
22 was posted or sent by the people the user followed. In 2009, Meta did away with Facebook’s
23 chronological feed in favor of engagement-based ranking; in 2016, it did the same on Instagram.
24 This “engagement-based” system meant that posts that received the most likes and comments
25 were highlighted first for users. But facing declining engagement, Meta redesigned its algorithms
26 once again in or around early 2018. This change prioritized “meaningful social interaction”
27 (“MSI”), with the goal of showing users content with which they were more likely to engage.
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1 The MSI-oriented algorithms purportedly emphasize the interactions of users' connections; e.g.,
2 likes and comments, and give greater significance to the interactions of connections that appear
3 to be closest to users. Meta's current algorithms consider a post's likes, shares, and comments, as
4 well as a respective user's past interactions with posts with similar characteristics, and displays
5 the post in the user's feed if it meets these and certain other benchmarks.

6 174. While Meta has publicly attempted to cast MSI as making time spent on its
7 platforms more "meaningful," MSI was actually just another way for Meta to increase user
8 engagement on Instagram and Facebook. While the feature increases the likelihood that an
9 interaction will be "meaningful" by Meta's definition—more likes, comments, and
10 interactions—it does not consider whether recommended content is "meaningful" to the user.
11 This sets up users who may have reacted negatively to upsetting or dangerous posts to see more
12 of the same. That, in turn, can lead to a "horrible feedback loop/downward spiral"—with
13 negative reactions leading the algorithm to present more posts that generate more negative
14 reactions.

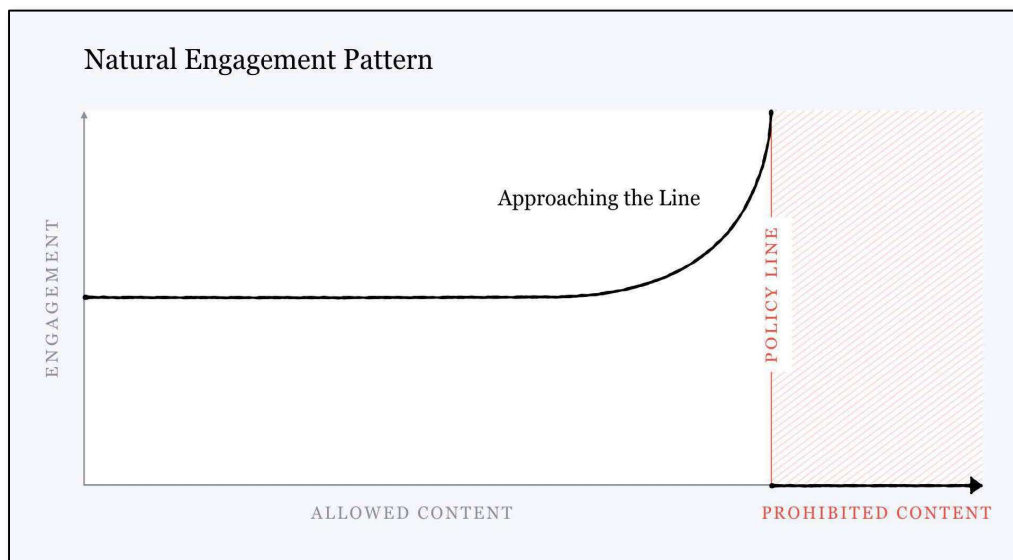
15 175. In algorithmically generating users' feeds, Meta draws upon the vast amount of
16 data it collects about and from its users. Meta's algorithms combine the user's profile (e.g., the
17 information posted by the user on the product) and the user's dossier (the data collected and
18 synthesized by Meta, to which it assigns categorical designations) along with a dossier of similar
19 users. Meta's algorithms identify and rank recommended posts to optimize for various outcomes,
20 such as for time-spent by a user or for user engagement. More often than not, this has the effect
21 that Meta's algorithms direct users to alarming and aversive material.

22 176. Much of what Meta shows users is content that they did not sign up for. Meta
23 often overrides users' explicit preferences because they conflict with Meta's predictions of what
24 will get shared and engaged.

25 177. Through its algorithms, Meta intentionally supplants the content that users have
26 elected to see with content that it believes will drive more use and engagement. Thus, the
27 products that Meta touts as "[g]iv[ing] people the power to build community and bring[ing] the
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1 world closer together,” are actually designed in a way that prioritizes not social connection but
2 product use at all costs, even to the detriment of the health and safety of young people.¹⁴⁹ The
3 result, for Meta, is an increase in its bottom line. The result for young users is products that are
4 so addictive that they return again and again, even when the products push posts they’re not
5 interested in.

6 178. Meta knew that its engagement-based ranking algorithm (and its subsequent,
7 iterative MSI ranking algorithm) was structured in a way that mean that content which produces
8 intense reactions (i.e., strong engagement) triggers amplification by the apps. This propels users
9 into the most reactive experiences, favoring posts that generate engagement because they are
10 extreme in nature. Zuckerberg publicly recognized this in a 2018 post, in which he demonstrated
11 the correlation between engagement and sensational content that is so extreme that it impinges
12 upon Meta’s own ethical limits, with the following chart:¹⁵⁰ While Zuckerberg went on to claim
13 that Meta had designed its algorithms to avoid this natural propensity of engagement-based
14 algorithms, his claim to the public is belied by extensive research indicating Meta’s products do
15 amplify extreme material.



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26 ¹⁴⁹ Meta, *Mission Statement*, Meta, <https://about.meta.com/company-info/>.

27 ¹⁵⁰ Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook,
28 <https://www.facebook.com/notes/751449002072082/>.

1 179. Meta intentionally designed its MSI-focused algorithms to collect and analyze
2 several kinds of data: a user’s profile, content the user reports, content the user posts, content
3 viewed, content engaged with, navigation paths, watch time, hover time (the amount of time a
4 user viewed a piece of content), whether a user mutes or unmutes a video, and whether a user
5 makes a full video screen, among other data. Meta uses this data from adolescents to predict
6 what posts will capture the user’s attention. Meta also tracks and utilizes data from various other
7 sources, such as a user’s off-product activities and the activities on websites that contain
8 Facebook or Instagram like or share buttons.¹⁵¹

9 180. Meta’s algorithmic ranking is utilized in a variety of product features that are
10 designed by Meta to maximize user engagement.

11 181. For example, the Instagram product consists primarily of a never-ending and user-
12 specific Feed, which Instagram’s data-driven algorithms generate for each user. In the app’s
13 “Home” pane, this feed includes (but is not limited to) photos and videos posted by Instagram
14 users that the user has elected to “follow,” as well as recommended photos and videos. In the
15 app’s “Explore” pane, the feed consists almost exclusively of photos and videos from users the
16 user has *not* elected to “follow.” In both cases, Instagram’s algorithms evaluate each user’s data
17 to predict what material will maximize their attention and time spent using the product,
18 irrespective of what the user wants to see.

19 182. Other “recommendation” features that are similarly algorithmically powered
20 include Facebook’s Newsfeed, Instagram’s Feed, Instagram Reels, Facebook Reels, Facebook
21 Watch (and its “For You” page), Accounts to Follow, People You May Know (introductions to
22 persons with common connections or backgrounds), Groups You Should Join, and Discover
23 (recommendations for Meta groups to join).

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26 ¹⁵¹ Allen St. John, *How Facebook Tracks You, Even When You're Not on Facebook*, Consumer
27 Reports (April 11, 2018), [https://www.consumerreports.org/privacy/how-facebook-tracks-you-
28 even-when-youre-not-on-facebook-a7977954071/](https://www.consumerreports.org/privacy/how-facebook-tracks-you-even-when-youre-not-on-facebook-a7977954071/).

1 183. These product features work in combination to create and maintain a user’s “flow-
2 state”: a hyper-focused, hypnotic state, where bodily movements are reflexive and the user is
3 totally immersed in smoothly rotating through aspects of the social media product.¹⁵²

4 184. They also create a phenomenon referred to as “feeding the spiral,” where
5 someone feeling bad sees content that makes them feel bad and they engage with it. Then there
6 Instagram is flooded with it, like an echo chamber screaming their most upsetting thoughts back
7 at them. Meta recognizes that Instagram users at risk of suicide or self-injury are more likely to
8 encounter more harmful self-injury and suicide-related content their feeds.

9 185. This phenomenon was cast into vivid relief when 14 year-old Molly Russell took
10 her own life after viewing reams of content related to suicide, self-injury, and depression on
11 Instagram and several other products.¹⁵³ During an official inquest investigating the role that
12 social media products played in her death, a Meta executive said that such content was “safe” for
13 children to see.¹⁵⁴ The coroner rejected this claim, finding instead that Molly “died from an act of
14 self-harm whilst suffering from depression and the negative effects of on-line content” that she
15 had not sought out, but that the products’ algorithms had pushed on her.¹⁵⁵ “The platform
16 operated in such a way using algorithms as to result, in some circumstances, of binge periods of
17 images, video clips and text some of which were selected and provided without Molly requesting
18 them. These binge periods ... are likely to have had a negative effect on Molly.... In some cases,
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20 ¹⁵² See e.g., *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the*
21 *World’s Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (2021),
22 <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/> (describing how IVR and infinite
scrolling may induce a flow state in users).

23 ¹⁵³ Dan Milmo, *Social Media Firms ‘Monetising Misery’, Says Molly Russell’s Father After*
Inquest, The Guardian (Sept. 20, 2022), [https://www.theguardian.com/uk-](https://www.theguardian.com/uk-news/2022/sep/30/molly-russell-died-while-suffering-negative-effects-of-online-content-rules-coroner)
24 [news/2022/sep/30/molly-russell-died-while-suffering-negative-effects-of-online-content-rules-](https://www.theguardian.com/uk-news/2022/sep/30/molly-russell-died-while-suffering-negative-effects-of-online-content-rules-coroner)
coroner.

25 ¹⁵⁴ Ryan Merrifield, *Molly Russell Inquest: Instagram Boss Says Suicidal Posts Shouldn’t Be*
Banned From App, The Mirror (Sept. 26, 2022), [https://www.mirror.co.uk/news/uk-news/molly-](https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269)
26 [russell-inquest-instagram-boss-28085269](https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269).

27 ¹⁵⁵ Ryan Merrifield, *Molly Russell Inquest: Instagram Boss Says Suicidal Posts Shouldn’t Be*
Banned From App, The Mirror (Sept. 26, 2022), [https://www.mirror.co.uk/news/uk-news/molly-](https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269)
28 [russell-inquest-instagram-boss-28085269](https://www.mirror.co.uk/news/uk-news/molly-russell-inquest-instagram-boss-28085269).

1 the content was particularly graphic, tending to portray self-harm and suicide as an inevitable
2 consequence of a condition that could not be recovered from. The sites normalised her condition
3 focusing on a limited and irrational view without any counterbalance of normality.”¹⁵⁶ The
4 coroner further observed that “[t]here was no age verification when signing up to the on-line
5 platform” and that Molly’s parents “did not have access, to the material being viewed or any
6 control over that material.”¹⁵⁷

7 186. Despite Molly’s death, and notwithstanding Meta’s research into dangerous
8 spirals—at one point dubbed the “Rabbit hole project”—the company did nothing to stop harm to
9 its young users.

10 **b. Facebook’s and Instagram’s user interfaces are designed to**
11 **create addictive engagement.**

12 187. To further drive user engagement (and thereby drive data collection and
13 advertising revenue), Facebook and Instagram also utilize a series of design features that are
14 carefully calibrated to exploit users’ neurobiology. These features work in tandem with
15 algorithmic ranking to promote addictive engagement.

16 188. *First*, Meta programs IVR into its products. Behavioral training via intermittent
17 rewards keeps users endlessly scrolling in search of a dopamine release, oftentimes despite their
18 desire to put their phone down and move onto other activities. Children, who are less likely to
19 have adequate impulse control than adults, are more susceptible to being drawn into this
20 engineered “flow state” and more likely to grow dependent on Facebook or Instagram.

21 189. *Second*, Facebook and Instagram utilize “Likes” to control the release of
22 dopamine in children. This feature, which Meta created for Facebook and “introduced ... to the
23 world” in 2010, allows users to indicate that they “Like” a post and visibly tallies the number of

24 ¹⁵⁶ Andrew Walker, H.M. Coroner, *Regulation 28 Report to Prevent Future Deaths 2* (Oct. 13,
25 2022), https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315_Published.pdf.

26 ¹⁵⁷ Andrew Walker, H.M. Coroner, *Regulation 28 Report to Prevent Future Deaths 2* (Oct. 13,
27 2022), https://www.judiciary.uk/wp-content/uploads/2022/10/Molly-Russell-Prevention-of-future-deaths-report-2022-0315_Published.pdf.

1 “Likes” any given post has earned.¹⁵⁸ Instagram launched in 2010 with the like feature built-in—
2 a user can “Like” a post simply by tapping a heart-shaped button.

3 190. As with a slot machine, users never know when a like will come. This conditions
4 them to stay on the app. But it also exacerbates issues of social comparison and feedback
5 seeking, creating detrimental effects on adolescent physical and mental health.

6 191. Meta has expanded the likes feature in both Facebook and Instagram. In
7 December 2016, Meta began allowing users to like comments, not just posts. In February 2022,
8 Meta began allowing users to “Like” Instagram Stories.¹⁵⁹ Expanding the like feature has
9 intensified and multiplied the body of feedback that teen users receive (or don’t receive) on their
10 posts, preying on their desire to seek validation through comparison with others.

11 192. Despite its ability to alleviate the negative impact of likes on younger users, Meta
12 chose only to implement half-measures. Meta created the option for users to hide like counts in
13 May 2021, but it made this an optional setting left off by default.¹⁶⁰ Moreover, the number of
14 likes remain visible to the poster of the content. These changes stop short of resolving the issue
15 of negative social comparison that these score-keeping features inflict.

16 193. *Third*, Meta has designed its video features in several ways geared to maximizing
17 users’ flow state and keeping them immersed in its products for longer periods of time. Video
18 clips on Facebook Reels and Instagram Reels automatically play as a user scrolls and
19 automatically restart once they conclude. Reels cannot be paused and tapping on the video will
20 simply mute its audio. In addition, Meta imposes limits on the length of video content on Reels
21 (currently 90 seconds, and at times as short as 15 seconds). These limits ensure that users do not
22 become bored by long videos and end their sessions.

23
24 ¹⁵⁸ Ray C. He, *Introducing new Like and Share Buttons*, Meta (Nov. 6, 2013),
<https://developers.facebook.com/blog/post/2013/11/06/introducing-new-like-and-share-buttons/>.

25 ¹⁵⁹ Jhinuk Sen, *Instagram is adding Likes to Stories so it doesn’t clog up people’s inboxes*,
26 Business Today (Feb. 15, 2022), <https://www.businesstoday.in/technology/news/story/instagram-is-adding-likes-to-stories-so-it-doesnt-clog-up-peoples-inboxes-322661-2022-02-15>.

27 ¹⁶⁰ Meta, *Giving People More Control on Instagram and Facebook* (May 26, 2021),
<https://about.fb.com/news/2021/05/giving-people-more-control/>.

1 194. Meta designed the comment features of Reels to minimize any disruption to users'
2 heightened flow state. The interface of Reels displays the “Like,” “Comment,” “Save,” and
3 “Share” buttons on the bottom right of the screen. This placement avoids the milliseconds of
4 delay or discomfort that could disrupt the flow state of right-handed users if placed elsewhere on
5 the screen. Furthermore, these buttons are overlaid on top of the continuously playing clips, to
6 eliminate any temporal or visual interruption during which a user might evaluate whether to
7 continue using the product. Likewise, when a user taps to view the comments on a Reel, the
8 video’s audio and the top quarter of the video continue to play behind the comments section.
9 Again, this design feature keeps the user’s attention on the feed.

10 195. In keeping with its study of IVR, Meta knows when to strategically interrupt a
11 user’s flow. Occasionally, while a video is playing, a comment from the video will appear on the
12 bottom of the screen, even without the user tapping to view the comments section. These
13 comments are selected, displayed, and timed intentionally, to retain a user’s attention by
14 engaging with the comments section.

15 196. *Fourth*, Meta carefully (and defectively) calibrates the notifications it sends
16 outside of the Facebook and Instagram apps, to maximize success in drawing back users who are
17 not presently using the products. By default, Facebook and Instagram notify users through text
18 and email about activity that might be of interest, which prompts users to open and reengage
19 with the products. However, Meta intentionally chooses to display only a limited amount of
20 information in notifications, in order to trigger curiosity and manipulate the user to click or tap
21 through to the product.¹⁶¹

22 197. Meta’s studied manipulation of user engagement through notifications is
23 particularly detrimental to teenagers, who lack impulse control and crave social rewards, and
24 who are therefore more susceptible to falling into compulsive patterns of product use. Those
25 harms are compounded by the fact that Meta sends push notifications in the middle of the night,

26 ¹⁶¹ *Clickbait*, Merriam-Webster Dictionary, [https://www.merriam-
27 webster.com/dictionary/clickbait](https://www.merriam-webster.com/dictionary/clickbait).

1 prompting children to re-engage with Instagram and Facebook the apps when they should be
2 sleeping. Disturbed and insufficient sleep is associated with poor health outcomes.¹⁶²

3 198. *Fifth*, the “Stories” feature of both Facebook and Instagram is defectively
4 designed to create artificial urgency so that users return to the apps. “Stories” was added by Meta
5 in response to the growing popularity of Snapchat with teenagers in 2016. “Stories” appear at the
6 top of a user’s home page upon opening the app and are available to view for only 24 hours, after
7 which they disappear. This creates pressure to use the product daily, or else risk missing out on
8 dopamine-causing stimuli or social interactions. This feature is particularly addicting to
9 adolescent users, who feel increased social pressure to view all their contact’s stories each day
10 before the content disappears, thus increasing their compulsive usage and potential addiction to
11 the product.¹⁶³ The ephemeral nature of disappearing content is a ploy intended to inspire urgent
12 perusal, and it works.¹⁶⁴

13 199. *Sixth*, Instagram’s and Facebook’s algorithms are structured to recommend
14 “keywords” or “hashtags” to its young users that lead them to navigate to dangerous content.

15 200. All of the above defects, in addition to the Instagram-specific defects discussed in
16 the section that follows, interact with and compound one another to make Meta’s products
17 addictive and harmful for kids.

18 201. Meta has long been aware of this dangerous and toxic brew, yet has Meta failed to
19 invest in adequate tools to limit the harm their products inflicted on users.

22 ¹⁶² Nat’l Inst. of Mental Health, *The Teen Brain: Still Under Construction* 6 (2011),
23 http://www.ncdsv.org/images/NIMH_TeenBrainStillUnderConstruction_2011.pdf.

24 ¹⁶³ Sarah Lempa, *Why Are Instagram Stories So Addicting?*, Healthline (April 5, 2021),
25 [https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-](https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-the-Stories)
26 [the-Stories](https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-the-Stories).

27 ¹⁶⁴ Madiha Jamal, *Ephemeral Content — The Future of Social Media Marketing*, Better
28 Marketing (March 2, 2021), [https://bettermarketing.pub/ephemeral-content-the-future-of-social-](https://bettermarketing.pub/ephemeral-content-the-future-of-social-media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%2C%20and%20LinkedIn%20Stories)
[media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%2C%20and%20LinkedIn%20Stories](https://bettermarketing.pub/ephemeral-content-the-future-of-social-media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%2C%20and%20LinkedIn%20Stories).

1 202. Meta’s failure to prevent compulsive use by children, and the harms resulting
2 therefrom, are a simple function of its misplaced priorities: Profit over safety.

3 203. Meta’s decision to hook teenage users by rewiring their brains has not aged well
4 for some of its former employees. Chamath Palihapitiya, the former Vice President of User
5 Growth at Facebook, admitted that he feels “tremendous guilt” about his contributions to social
6 media, saying “[t]he short-term, dopamine-driven feedback loops that we have created are
7 destroying how society works.”¹⁶⁵

8 c. **Instagram’s defective product features cause negative**
9 **appearance comparison and social comparison**

10 204. Instagram use by teens is associated with negative impacts on body image, social
11 comparison, eating issues, confidence in friendships, and mental health, including anxiety,
12 depression, and suicidal thoughts. Teen users feel worse about themselves while using
13 Instagram. Some even link their negative feelings to the platform.

14 205. Social comparison is particularly bad on Instagram because, among other things,
15 celebrity and influencer content is pervasive. By manufacturing and emphasizing influence and
16 celebrity, and purposely inundating tween and teen users with those accounts, Meta further
17 exploits and monetizes social comparison. That has come at a direct cost to the mental health of
18 its teens users, who are more susceptible to body dissatisfaction and negative social comparisons.

19 206. Score-keeping features designed into Instagram amplify these problems. Teenage
20 girls are particularly impacted when comparing like counts, follower counts, views, and
21 comments on their posts to those of models, celebrities, and so-called influencers.

22 207. Instagram compounds the foregoing problems with yet another pernicious
23 feature—image “filters” that allow users to engage in selective self-presentation by altering their
24 appearance in photos and videos. These filters allow facial structure alteration, body slimming,

25 ¹⁶⁵ Amy B. Wang, *Former Facebook VP says social media is destroying society with ‘dopamine-*
26 *driven feedback loops’*, Wash. Post (Dec. 12, 2017), [https://www.washingtonpost.com/news/the-](https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/)
27 [switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-](https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/)
28 [dopamine-driven-feedback-loops/](https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/).

1 skin lightening, skin tanning, blemish clearing, the artificial overlap and augmentation of
2 makeup, and other beautification “improvements.”¹⁶⁶

3 208. These filters have harm young users in multiple ways, both independently and in
4 concert with Instagram’s other defective features.¹⁶⁷

5 209. *First*, the easy accessibility of filters, combined with features such as “Likes,”
6 encourage adolescents to artificially change their appearances.¹⁶⁸ As noted, adolescents naturally
7 seek social validation. When they notice increased interaction and favorable responses to their
8 filter-edited photos (more “Likes” and comments”), many are led to believe they are only
9 attractive when their images are edited.¹⁶⁹ These young people begin to prefer how they look
10 using filters, not as they appear naturally.¹⁷⁰ In a 2016 study, 52% of girls said they use image
11 filters every day, and 80% have used an app to change their appearance before age 13.¹⁷¹

12 210. *Second*, because Instagram already promotes a high degree of social comparison,
13 youth find themselves comparing their real-life appearances to the edited appearances not only of
14 themselves but of others online.¹⁷² These false and unrealistic body image standards further lead
15

16 ¹⁶⁶ T. Mustafa, *An ‘Instagram Vs Reality’ filter is showing how toxic photo editing can be*, Metro
(April 2021); <https://metro.co.uk/2021/04/30/an-instagram-vs-reality-tool-is-showing-how-toxic-filters-can-be-14498265/>.

17 ¹⁶⁷ Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are*
18 *Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021),
19 <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

20 ¹⁶⁸ Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT
Tech. Rev. (Apr. 2, 2021), <https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/>.

21 ¹⁶⁹ Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT
22 Tech. Rev. (Apr. 2, 2021), <https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/>.

23 ¹⁷⁰ Poojah Shah, *How Social Media Filters Are Affecting Youth*, Parents (Apr. 28, 2022),
24 <https://www.parents.com/kids/health/childrens-mental-health/how-social-media-filters-are-affecting-youth/>.

25 ¹⁷¹ Anna Haines, *From ‘Instagram Face’ to ‘Snapchat Dysmorphia’: How Beauty Filters Are*
26 *Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021),
<https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff>.

27 ¹⁷² *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in*
28 *the U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls->

1 teenagers to develop negative perceptions of their appearance. 77% of girls reported trying to
2 change or hide at least one part of their body before posting a photo of themselves, and 50%
3 believe they did not look good without editing.¹⁷³

4 211. *Third*, the specific changes filters make to an individual’s appearance can cause
5 negative obsession or self-hatred surrounding aspects of their appearance.¹⁷⁴ The filters alter
6 specific facial features such as eyes, lips, jaw, face shape, and slimness, which often require
7 medical intervention to alter in real life.¹⁷⁵ The pervasiveness of Meta-designed filters through
8 the algorithm permeates Instagram and causes adolescent users to negatively compare their real
9 appearances against a false physical reality.¹⁷⁶ In one recent study, even users who reported a
10 higher initial self-esteem level felt they looked 44% worse before their image was edited using a
11 filter.¹⁷⁷ “[W]hen the . . . filter increased the gap between how participants wanted to look and
12 how they felt they actually looked, it reduced their self-compassion and tolerance for their own
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18 body-image-and-social-comparison-on-instagram.pdf (explaining that users forget that Instagram
19 only shows the highlights of people’s lives and is not depicting reality).

19 ¹⁷³ Anna Haines, *From ‘Instagram Face’ to ‘Snapchat Dysmorphia’; How Beauty Filters Are*
20 *Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021),
21 [https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff)
22 [dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff](https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c2d58704eff).

21 ¹⁷⁴ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen
22 Vogue (Jan. 25, 2022), [https://www.teenvogue.com/story/social-media-filters-how-young-](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp)
23 [people-see-themselves/amp](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp).

23 ¹⁷⁵ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen
24 Vogue (Jan. 25, 2022), [https://www.teenvogue.com/story/social-media-filters-how-young-](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp)
25 [people-see-themselves/amp](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp).

24 ¹⁷⁶ Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen
25 Vogue (Jan. 25, 2022), [https://www.teenvogue.com/story/social-media-filters-how-young-](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp)
26 [people-see-themselves/amp](https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp).

26 ¹⁷⁷ Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact*
27 *People’s Self-Image*, Harvard Business Review (December 22, 2021),
28 <https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image>.

1 physical flaws.”¹⁷⁸ As one psychodermatologist has summed it up, “these apps subconsciously
2 implant the notion of imperfection and ugliness, generating a loss of confidence.”¹⁷⁹

3 212. *Fourth*, Meta has intentionally designed its product to not alert adolescent users
4 when images have been altered through filters or edited. Meta has therefore designed its product
5 so that users cannot know which images are real and which are fake, deepening negative
6 appearance comparison.

7 213. The impact of the negative social and appearance comparison caused by Meta’s
8 defective product features is profound. Instagram-induced social comparison creates a schism
9 between the ideal self and the real self, leading to distress and depression. Filters, especially in
10 combination with other product features, cause body image issues, eating disorders, body
11 dysmorphia, and related harms.¹⁸⁰

12 214. The various product defects built into Instagram exacerbate each other, creating a
13 perfect storm. Posting for the ‘gram creates a pressure to look perfect.¹⁸¹ The ability of
14 influencers to monetize their face body creates a highlight reel norm. And “feeding the spiral”
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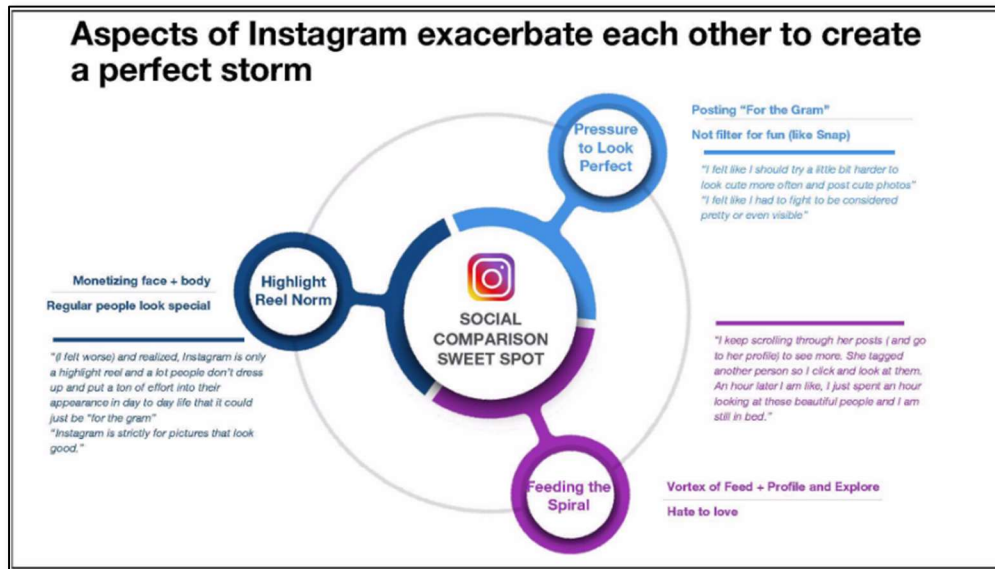
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18 ¹⁷⁸ Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact
19 People’s Self-Image*, Harvard Business Review (December 22, 2021),
20 <https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image>.

21 ¹⁷⁹ Genesis Rivas, *The Mental Health Impacts of Beauty Filters on Social Media Shouldn’t Be
22 Ignored – Here’s Why*, InStyle (Sept. 14, 2022), <https://www.instyle.com/beauty/social-media-filters-mental-health>.

23 ¹⁸⁰ See Sian McLean, Susan Paxton, Eleanor Wertheim, & Jennifer Masters, *Photoshopping the
24 Selfie: Self Photo Editing and Photo Investment Are Associated with Body Dissatisfaction in
25 Adolescent Girls*, 48 Int’l J. of Eating Disorders 1132, 1133 (Aug. 27, 2015),
26 <https://pubmed.ncbi.nlm.nih.gov/26311205/> (presenting a 2015 study involving 101 adolescent
27 girls, which found that more time spent editing and sharing selfies on social media raised their
28 risk of experiencing body dissatisfaction and disordered eating habits.); Scott Griffiths, Stuart
Murray, Isabel Krug, & Sian McLean, *The Contribution of Social Media to Body Dissatisfaction,
Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men*, 21
Cyberpsychology Behavior, and Soc. Networking 149, 149 (Mar. 1, 2018),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5865626/>.

¹⁸¹ *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the
U.S.*, Wall. St. J. (Sept. 29, 2021), <https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf>.

1 creates compulsive use.¹⁸² Taken together, these three features—all driven by very specific
2 design features of Instagram—create a social comparison sweet spot:



183

19 215. Meta understands that the social comparison it knowingly enables through
20 appearance filters create compulsive behavior among child users, especially when paired with
21 other defects such as likes and algorithmic recommendations.

22 216. Despite its awareness that the deliberate design of Instagram was drastically
23 damaging teen mental and physical health, Meta ignored the problem, failing to implement its
24 own researchers' recommendations.

25 **d. Meta has failed to implement effective age-verification measures to keep children off of Facebook and Instagram.**

26 217. Meta purports to ban children under the age of 13 from using its products but, at
27 all relevant times, has lacked any reliable form of age verification to prevent such use.

28 218. Other online products employ substantially more effective and reliable age
verification schemes before granting children access. These include but are not limited to
connecting new users to parents' accounts, credit card verification, verification by presentation

¹⁸² *Id.*

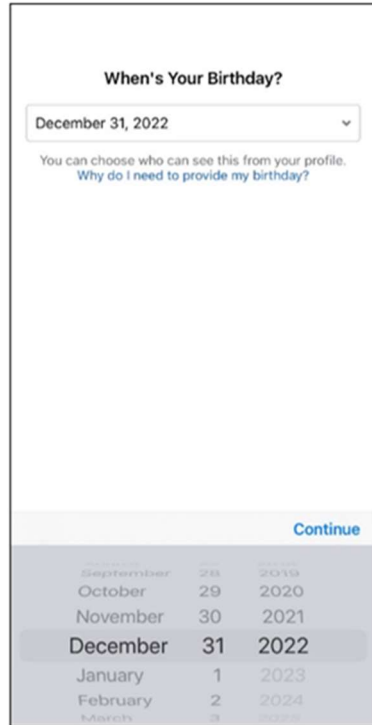
¹⁸³ *Id.*

1 of identification card (or other government-issued document), or linking a verified undergraduate
2 or professional email, among other methods. Meta chooses not to implement any of these
3 systems, even though they are technologically feasible, used by many companies across the
4 Internet, and could be employed at relatively low cost. Indeed, Meta itself uses an age
5 verification technique for its Facebook Dating product that it claims can verify ages without
6 identifying users—but does not use the same technology at account startup for Facebook or
7 Instagram.¹⁸⁴

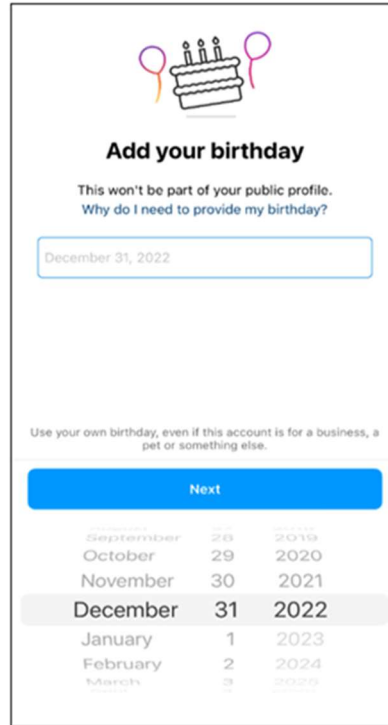
8 219. For most of its history, Meta knew that children under the age of 13 were using its
9 apps. And it certainly could have figured this out based on posted photos of elementary school
10 age users. Yet Meta continued to promote and target Facebook and Instagram to children. As
11 long as a new user simply clicked a box confirming that they were at least 13 years old, Meta
12 asked no questions, engaged in zero follow-up, and let the user access the products indefinitely.

13 220. This minimal age verification procedure is toothless. Meta does not as a default
14 matter require users to verify their ages upon signing up to use Instagram or Facebook. Users are
15 only asked to self-report their birthday:
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26 ¹⁸⁴ Erica Finkle, Meta Director of Data Governance, *Bringing Age Verification to Facebook*
27 *Dating*, Meta (Dec. 5, 2022), [https://about.fb.com/news/2022/12/facebook-dating-age-
28 verification/](https://about.fb.com/news/2022/12/facebook-dating-age-verification/).



(Facebook, January 2023)



(Instagram, January 2023)

221. If the user reports a birthday indicating they are less than 13 years old, they are informed that they cannot create an account. However, after acknowledging this message, users can *immediately* reattempt to create an account and input an eligible birthday. When a user enters an eligible birthday, there are no restrictions to creating an account, other than having it linked to a cell phone number or an email address. In other words, Meta routinely allows pre-teens to misrepresent their age as 13 or 40 or any other age—without so much as asking for proof. This is analogous to selling a teenager alcohol who has admitted to being under 21 but then promptly changed his story.

222. The upshot is that, in a matter of seconds, and without age verification, identity verification, or parental consent, children of all ages can create a Facebook or Instagram account, and immediately become subject to the products' various addictive and harmful features.¹⁸⁵

¹⁸⁵ Similarly, the absence of effective age verification measures means that adult users can claim to be children—with obvious dangers to the actual children on Meta's products.

1 223. There can be no serious debate about whether Meta has more effective age
2 verification tools at its disposal. Perversely, Meta does employ age verification on Instagram—
3 but only when a user self-reports they are *younger* than 13. In that case, Meta provides a user
4 with what amounts to an appeal right: “if you believe we made a mistake, please verify your age
5 by submitting a valid photo ID that clearly shows your face and date of birth.”
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4:07 5G

Help Us Verify Your Age

You must be at least 13 years old to have an Instagram account. We disabled your account because you are not old enough yet. If you believe we made a mistake, please verify your age by submitting a valid photo ID that clearly shows your face and date of birth.

Full name

Email address
Please provide the email address connected to your account.

Instagram username

Date of birth

Your ID
[Choose File](#) no file selected

Please provide a photo of a [valid ID](#).

Your photo ID must include your face and date of birth so we can verify your age. After you send us a copy of your ID, it'll be encrypted and stored securely. Your ID won't be visible on your profile, to friends or to other people on Instagram and will be deleted 30 days after submission.

Any additional info

[Send](#)

[ABOUT US](#) [HELP](#) [API](#) [JOBS](#) [TERMS](#) [PRIVACY](#)

[help.instagram.com](#)

24

25 224. That is, instead of asking users to prove they are really *over* 13, Meta asks them if
26 they are really sure they are *under* 13. At best, this reflects a completely upside-down view of
27 Meta’s duty of care, using age verification to screen *in* minor users but not to screen them *out*. At
28

1 worst, Meta’s “are you sure you’re really under 13” question invites pre-teens to falsify their
2 identification to gain access to Instagram.

3 225. Similarly, Meta imposes unnecessary barriers to the removal of accounts created
4 by children under 13. Since at least April 2018, Instagram and Facebook both accept reports of
5 accounts created by children under 13.¹⁸⁶ However, before an Instagram or Facebook account is
6 deleted, Meta requires verification that the child is under the age of 13. For example, Instagram’s
7 reporting page states:

8 if you’re reporting a child’s account that was made with a false
9 date of birth, and the child’s age can be reasonably verified as
10 under 13, we’ll delete the account. You will not get confirmation
11 that the account has been deleted, but you should no longer be able
12 to view it on Instagram. Keep in mind that complete and detailed
13 reports (example: providing the username of the account you’re
14 reporting) help us take appropriate action. If the reported child’s
15 age can’t reasonably be verified as under 13, then we may not be
16 able to take action on the account.¹⁸⁷

17 Facebook’s reporting page contains almost identical language.¹⁸⁸ By choosing to implement age
18 verification only before deleting accounts of users suspected to be children, but not when those
19 accounts are first created, Meta makes it more difficult to prove a user is under age 13 than it
20 does for a minor to pretend to be over 13.

21 226. It is unclear how long Meta takes to delete a reported account on average, if it
22 does so at all. Meta has ignored some parents’ attempts to report and deactivate accounts of
23 children under 13 years old.

24 ¹⁸⁶ *Report an Underage User on Instagram*, Instagram,
25 <https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOwkalXtfJ1ft9O09Q>; *Report an Underage Child*, Facebook,
26 <https://www.facebook.com/help/contact/209046679279097>.

27 ¹⁸⁷ *Report an Underage User on Instagram*, Instagram,
28 <https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOwkalXtfJ1ft9O09Q>.

¹⁸⁸ *Reporting an Underage Child*, Facebook,
<https://www.facebook.com/help/contact/209046679279097>.

1 227. Zuckerberg has stated that he believes children under 13 should be allowed on
2 Facebook,¹⁸⁹ so Meta’s lax approach to age verification is no surprise.

3 228. Meta’s approach to underage users of its product has consistently been one of
4 feigned ignorance. On October 10, 2021, Senator Marsha Blackburn reported that a young
5 celebrity told Instagram CEO Adam Mosseri that she had been active on Instagram since she was
6 eight. Mosseri replied that he “didn’t want to know that.”¹⁹⁰

7 229. But Meta *does* know that its age-verification protocols are inadequate to keep
8 minors off Facebook and Instagram. According to a May 2011 ABC News report, “about 7.5
9 million [Facebook] users in the U.S. are under the age of 13, and about 5 million are under the
10 age of 10.”¹⁹¹ Meta knows through retrospective cohort analyses that “up to 10 to 15% of even
11 10-year-olds in a given cohort may be on Facebook or Instagram.”¹⁹²

12 e. **Facebook’s and Instagram’s parental controls are defective.**

13 230. Facebook and Instagram lack adequate parental controls, which hinders parents’
14 ability to monitor and protect their children from harm.

15 231. Despite its obligations under COPPA, Meta does not require “verifiable parental
16 consent” for minors to use Facebook or Instagram. Meta has chosen to avoid its obligations by
17

18
19 ¹⁸⁹ Kashmir Hill, *Mark Zuckerberg Is Wrong About Kids Under 13 Not Being Allowed on*
20 *Facebook* (May 20, 2011), [https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-](https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506)
21 [zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506](https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506).

22 ¹⁹⁰ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
23 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), available
24 at
25 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
26 [m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

27 ¹⁹¹ Ki Mae Heussner, *Underage Facebook Members: 7.5 Million Users Under Age 13*, ABC
28 (May 9, 2011), [https://abcnews.go.com/Technology/underage-facebook-members-75-million-](https://abcnews.go.com/Technology/underage-facebook-members-75-million-users-age-13/story?id=13565619)
users-age-13/story?id=13565619.

¹⁹² *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021), available
at
[https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

1 *purporting* to ban children younger than 13, despite knowing that such children continue to
2 access and use its products due to its inadequate age verification methods.

3 232. While COPPA requires parental consent only for users under the age of 13, a
4 reasonable company that knows or should have known its products are harmful to adolescents
5 would require parental consent for *any* minor to use them. But Meta's lack of parental consent
6 requirement for any underage users robs parents of an important way to protect their children
7 from the harms caused by Instagram and Facebook.

8 233. Those apps largely lack parental controls, despite their ready availability,
9 affordability, and ease of implementation. For example, Meta has chosen not to: (a) require
10 children's accounts on Facebook and Instagram to be linked to their parents', as it does with
11 another one of its products, Messenger Kids;¹⁹³ (b) send reports of a child's activity to parents;
12 (c) allow parents to implement maximum daily usage limitations or to prohibit use during certain
13 hours (school, sleep hours, etc.); (d) notify parents about interactions with accounts associated
14 with adults; (e) notify parents when CSAM is found on a minor's account; or (f) require parental
15 approval before a minor can follow new accounts.

16 234. Controls like these would enable parents to track the frequency, time of day, and
17 duration of their child's use, identify and address problems arising from such use, and
18 better exercise their rights and responsibilities as parents. It is reasonable for parents to expect
19 that social media companies that actively promote their products to minors will undertake
20 reasonable efforts to notify parents when their child's use becomes excessive, occurs during
21 sleep time, or exposes the child to harmful content. Meta could feasibly design Instagram and
22 Facebook to do so at negligible cost.

23 235. Meta creates a foreseeable risk to young users through its defective products and
24 then attempts to shift the burden of protection from those products onto parents. As troublingly,
25

26 ¹⁹³ Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec.
27 4, 2017), <https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/>.

1 Meta intentionally designs Facebook and Instagram so that children can easily evade their
2 parents' supervision. Instagram and Facebook allow children to create a limitless number of
3 anonymous accounts without parental approval or knowledge, and also allows kids to block their
4 parent's profile.¹⁹⁴ On Instagram, children can post stories to "Close Friends Only" (i.e., to a
5 select group of followers), excluding their parents. On Facebook, children can place their parents
6 on a "restricted list" of people who are unable to view their stories.

7 236. Finally, Meta has failed to develop effective reporting tools to deal with abuse
8 directed at children through Instagram and Facebook. Meta does not have a phone number that a
9 parent or child can call to report such abuse in real time. Its online reporting mechanisms lack an
10 immediate response mechanism, regardless of the seriousness of the harm at issue. Some users
11 have found that Meta declined to respond to reports filed through its online reporting tool, citing
12 technical issues.

13 **f. Facebook's and Instagram's defective features include**
14 **impediments to discontinuing use.**

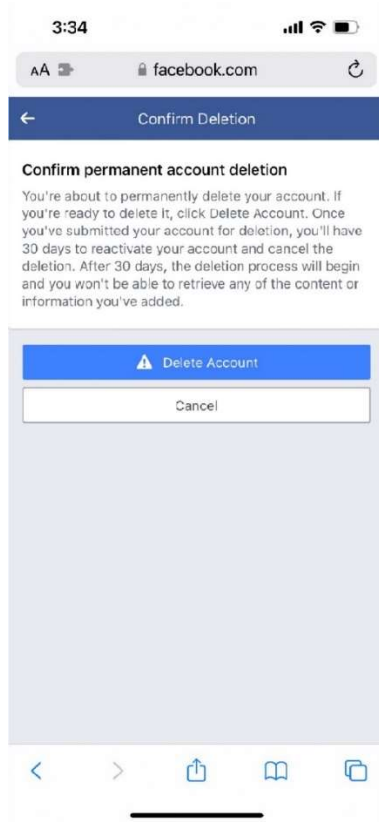
15 237. Meta has intentionally and defectively designed its products so that adolescent
16 users face significant navigational obstacles and hurdles when trying to delete or deactivate their
17 accounts, in contrast to the ease with which users can create those accounts.

18 238. Currently, to delete or deactivate an Instagram or Facebook account, a user must
19 locate and tap on approximately seven different buttons (through seven different pages and
20 popups) from the main feed. Some young users give up on their attempts to quit because it's too
21 difficult to navigate through the interface to completion.

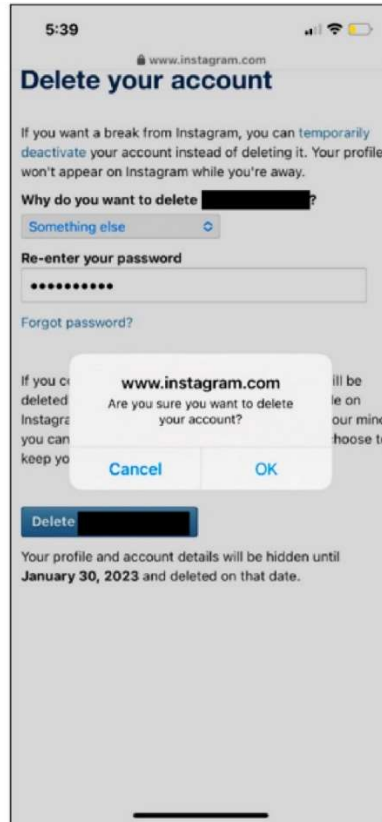
22 239. Even if a user successfully navigates these seven pages, Meta still won't
23 immediately delete their account. Instead, Meta preserves the account for 30 more days. If at any

24 ¹⁹⁴ See Caity Weaver and Danya Issawi, *'Finsta,' Explained*, N.Y. Times (Sept. 30, 2021),
25 <https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html> ("It is neither
26 an official designation nor a type of account offered by Facebook. Rather, it is a term many users
27 ascribe to secondary accounts they create for themselves on Instagram, where their identities —
28 and, often, the content of their posts — are obscured to all but a small, carefully chosen group of
followers.").

1 time during those 30 days a user’s addictive craving becomes overwhelming and they access the
2 account again, the deletion process starts over. The user must go through all the above steps
3 again, including the 30-day waiting period, if they again wish to delete their account.



(Facebook Final Deletion Screen February 2023)



(Instagram Final Deletion Screen, January 2023)(account name redacted)

19 240. As an additional barrier to deletion, Meta urges users of both products to
20 deactivate, rather than delete, their accounts. For example, Instagram users who choose to delete
21 their accounts are immediately shown a screen with their profile picture and asked: “Deactivate
22 your account instead of deleting?” The option to deactivate is conspicuously highlighted.
23 Similarly, Facebook displays a screen that automatically selects the option of deactivating rather
24 than deleting a user account.

25 241. Meta’s aggressive efforts to prevent users from discontinuing their use of
26 Facebook and Instagram is particularly problematic because unsuccessful efforts to discontinue
27 use are a hallmark of addiction, incorporated as the sixth criteria in the *Bergen Social Media
28 Addiction Scale*, discussed above.

1 4. **Meta has concealed from users, the public, and Congress the harmful**
2 **effects that Instagram’s and Facebook’s design have on children.**

3 242. Meta has engaged in a years-long pattern of concealing critical information about
4 the safety of Instagram and Facebook from the public. While Meta touted the safety of its
5 products, it failed to disclose information it knew concerning the significant risks associated with
6 its products, even though it knew that the public lacked access to this information.

7 243. Meta’s pattern of intentional concealment came to a head in August 2021, just
8 weeks before Frances Haugen dropped her bombshell revelations on the public. On August 4,
9 2021, Senators Marsha Blackburn and Richard Blumenthal wrote to Mark Zuckerberg. The
10 Senators’ letter observed that “[a]n expanding volume of scientific research shows that social
11 media platforms can have a profoundly harmful impact on young audiences” and noted “grave
12 concerns about [Meta’s] apparent effort to ensnare children into social media platforms at earlier
13 and earlier ages.”¹⁹⁵ The letter concluded by asking Zuckerberg six “pretty straightforward
14 questions about how the company works and safeguards children and teens on Instagram.”¹⁹⁶

15 244. Meta’s years-long concealment of its research was revealed just weeks later, when
16 Frances Haugen released internal Meta studies, along with a trove of other internal Meta
17 documents, to the Wall Street Journal.

18 245. On September 21, 2021, Senator Blumenthal confronted a Meta representative
19 about the conspicuous omissions in Meta’s response to his letter:

20 Last month, on August 4, Senator Blackburn and I wrote to Mark
21 Zuckerberg and asked him specifically about this issue. We asked,

22 ¹⁹⁵ Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer
23 of Facebook (Aug. 4, 2021), *available at*
24 [https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-](https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf)
25 [%20Mental%20Health%20and%20Kids%20Letter.pdf](https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf).

26 ¹⁹⁶ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
27 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), *available*
28 *at*
29 <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro>
30 [m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro). *See also*, Letter from Richard Blumenthal, U.S.
31 Senator, to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), *available at*
32 [https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-](https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf)
33 [%20Mental%20Health%20and%20Kids%20Letter.pdf](https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf).

1 and I'm quoting, "Has Facebook's research ever found that its
2 platforms and products can have a negative effect on children's
3 and teens' mental health or well-being such as increased suicidal
4 thoughts, heightened anxiety, unhealthy usage patterns, negative
5 self-image, or other indications of lower well-being?"

6 It wasn't a trick question. It preceded the reports in the Journal. We
7 had no idea about the whistleblower documents that were
8 ultimately revealed.

9 Facebook dodged the question. "We are not aware of a consensus
10 among studies or experts about how much screen time is too
11 much."

12 We are not aware. Well, we all know now that representation was
13 simply untrue.¹⁹⁷

14 246. Senator Blumenthal went on to ask the witness, Facebook's Vice President of
15 Privacy & Public Policy, "why did Facebook misrepresent its research on mental health and
16 teens when it responded to me and Senator Blackburn?" After disputing the characterization,
17 Satterfield responded, "The safety and well-being of the teens on our platform is a top priority
18 for the company. We're going to continue to make it a priority. This was important research."
19 Senator Blumenthal then went on: "Why did you conceal it?" Satterfield responded, "we didn't
20 make it public because we don't, with a lot of the research we do because we think that is an
21 important way of encouraging free and frank discussion within the company about hard
22 issues."¹⁹⁸

23 247. Meta unilaterally decided to prioritize "free and frank" internal discussion over
24 honest and transparent responses to direct questions from sitting United States Senators. When it

25 ¹⁹⁷ Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week's Consumer
26 Protection Subcomm. Hearing to Explain Coverup of its Platforms' Negative Impact on Teens
27 and Children* (Sept. 21, 2021), available at
28 <https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>.

¹⁹⁸ Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week's Consumer
Protection Subcomm. Hearing to Explain Coverup of its Platforms' Negative Impact on Teens
and Children* (Sept. 21, 2021), available at
<https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children>.

1 “dodged, ducked, sidetracked, [and] in effect misled” Senators Blumenthal and Blackburn, Meta
2 deceived the public via its elected representatives.¹⁹⁹

3 248. Moreover, Satterfield’s “free and frank discussion” excuse has been contradicted
4 publicly by Meta employees.

5 249. In her testimony before the Senate, Frances Haugen cited evidence that Meta “is
6 so scared of even basic transparency that it goes out of its way to block researchers who are
7 asking awkward questions.”²⁰⁰ Ms. Haugen further testified that Meta’s culture emphasizes
8 insularity and promotes the idea that “if information is shared with the public, it will just be
9 misunderstood.”²⁰¹

10 250. This is consistent with reports from Facebook content moderators that there is a
11 “culture of fear and excessive secrecy” within Meta that “prevent[s] [them] from speaking
12 out.”²⁰²

15 ¹⁹⁹ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
16 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available
17 at
18 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
19 [m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower); see also *Protecting Kids Online: Testimony from a*
20 *Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety,*
21 *and Data Security* (Oct. 5, 2021) available at

22 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
23 [m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower) (statement by Senator Brian Schatz to Frances Haugen
24 that he had “a long list of misstatements, misdirections and outright lies from the company”).

25 ²⁰⁰ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
26 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available
27 at
28 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

29 ²⁰¹ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
30 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available
31 at
32 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
33 [m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

34 ²⁰² Zoe Schiffer, *Facebook Content Moderators Call for Company to Put an End to Overly*
35 *Restrictive NDAs*, *The Verge* (Jul. 22, 2021), available at
36 [https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-](https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-restrictive-ndas)
37 [restrictive-ndas](https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-restrictive-ndas).

1 251. Notably, Meta’s pattern of concealment did not end after Frances Haugen came
2 forward. On September 30, 2021, Antigone Davis, Facebook’s Head of Safety, testified before
3 the Senate. Ms. Davis represented that, when Instagram “do[es] ads to young people, there are
4 only three things that an advertiser can target around: age, gender, location. We also prohibit
5 certain ads to young people, including weight-loss ads.”²⁰³ She further testified, “We don’t allow
6 the sexualization of minors on our platform.”²⁰⁴

7 252. Ms. Davis’s statements were subsequently proven false by Senator Mike Lee.
8 During an October 2021 hearing, Senator Lee explained that a group called the Technology
9 Transparency Project (“TTP”) alerted the U.S. Senate that it had gained Facebook’s approval to
10 target a series of harmful ads to up to 9.1 million users between the ages of 13 and 17.²⁰⁵ While
11 TTP did not actually run the ads, approval from Meta to do so demonstrates that the company
12 allows harmful targeted advertising toward minors. Senator Lee showed three examples of these
13 Meta-approved ads, shown below:^{206, 207}

14 ²⁰³ Subcomm.: *Protecting Kids Online: Facebook, Instagram, and Mental Health Harms*
15 *Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30,
16 2021), available at [https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-](https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms)
[instagram-and-mental-health-harms](https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms).

17 ²⁰⁴ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
18 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available
19 at
20 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

21 ²⁰⁵ See *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
22 *Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available
23 at
24 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

25 ²⁰⁶ These screen captures were taken from a video of the October 5, 2021 Senate Hearing with
26 witness Frances Haugen. See *Protecting Kids Online: Testimony from a Facebook Whistleblower*
27 *Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5,
28 2021) available at
[https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).

²⁰⁷ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021) available
at
[https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)
[m%20a%20facebook%20whistleblower](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower).



253. The first ad encourages children to “[t]hrow a skittles party like no other” and displays the suggestion against a background of colorful prescription pills. The second ad promotes an “Ana Tip” instructing the viewer to “visit pro-ana sites to feed your motivation and reach your goal” when feeling hungry. The third ad informs the viewer that they “look lonely” and encourages them to “[f]ind your partner now to make a love connection.”

254. Senator Lee stated that based on the Meta Defendants’ approval of these pro-drug, pro-anorexia, pro-sexualization ads targeted to children aged 13 to 17, “[o]ne could argue that it proves that Facebook is allowing and perhaps facilitating the targeting of harmful adult-themed ads to our nation’s children.”²⁰⁸

255. In addition to the litany of misrepresentations and omissions identified above, Meta has repeatedly failed to tell the truth about the age of users on Instagram. In statements to Congress and elsewhere, Zuckerberg has represented that Meta does not allow users under the age of 13 to use the product. For example, in testimony before the U.S. House of Representatives

²⁰⁸ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) available at <https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower>.

1 Committee on Energy and Commerce, Zuckerberg stated: “There is clearly a large number of
2 people under the age of 13 who would want to use a service like Instagram. We currently do not
3 allow them to do that.”²⁰⁹

4 256. However, as discussed further above, Meta has long known that its product is
5 widely used by children under the age of 13. In fact, Meta knows through retrospective cohort
6 analyses that “up to 10 to 15% of even 10 year-olds in a given cohort may be on Facebook or
7 Instagram.”²¹⁰

8 257. Far from acknowledging the serious defects in its products and warning children
9 and parents of the same, Meta has launched advertising campaigns designed to encourage more
10 children to use its products—by touting the purported safety of those products. For example, in a
11 recent television ad, Meta claimed that it “build[s] technology that gives you more control and
12 helps keep you safe” including through its “industry leading AI” and other “tools that can
13 protect—so you can connect.” This advertisement featured children, as in the screenshot below.
14

15 ²⁰⁹ *Disinformation Nation: Social Media’s Role in Promoting Extremism and Misinformation*
16 *Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 59
(March 25, 2021), available at
17 [https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-
20210325.pdf](https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf); see also *Disinformation Nation: Social Media’s Role in Promoting Extremism*
18 *and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications*
and Technology 175 (March 25, 2021), available at
19 [https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-
20210325.pdf](https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf) (Zuckerberg: “[O]ur policies on-on the main apps that we offer generally prohibit
20 people under the age of 13 from using the services.”); See also *Transcript of Zuckerberg’s*
appearance before House committee, Washington Post (April 11, 2018),
21 [https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-
22 appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on](https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on) (When asked if
it is correct that children can get a Facebook account starting at age 13, Zuckerberg confirmed
23 that it was correct); see also NewSchools Venture Fund, *NewSchools Summit 2011: John Doerr*
and Mark Zuckerberg on innovation and education (May 24, 2011),
24 <https://www.youtube.com/watch?v=n03zAOadyMA> (Zuckerberg: “[A]nd so basically, we don’t
allow people under the age of 13 on Facebook . . . today we don’t allow people under the age of
13 to sign up”).

25 ²¹⁰ *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before*
Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021), available
26 at
27 [https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20fro
28 m%20a%20facebook%20whistleblower.](https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower)

1 Other advertising campaigns have similarly touted Meta’s AI as being a feature that contributes
2 to its products’ safety—without disclosing the serious defects identified in this Complaint.

3 258. In another example of advertising that promotes use by children, a Meta 2021
4 online advertisement actively highlighted the content available for fifth grade children on its
5 Facebook product, highlighting the experience of an art teacher who used Facebook to
6 communicate with students during the pandemic—an experience the video noted was “a lot to
7 unpack for little, tiny people.”

8 **5. Meta failed to adequately warn about the dangers and harms caused**
9 **by Instagram and Facebook, or provide instructions regarding safe**
10 **use.**

11 259. Meta has failed to adequately warn adolescent users and parents about the
12 physical and mental health risks posed by Instagram and Facebook. These risks include a
13 plethora of mental health disorders like compulsive use, addiction, eating disorders, anxiety,
14 depression, insomnia, exacerbated executive dysfunction, sexual exploitation from adult users,
15 suicidal ideation, self-harm, and death.

16 260. Meta targets adolescent users via advertising and marketing materials distributed
17 throughout digital and traditional media that fail to provide sufficient warnings to potential
18 adolescent consumers of the physical and mental risks associated with using Facebook and
19 Instagram.

20 261. Meta also fails to adequately warn adolescent users during the product registration
21 process. At account setup, neither Instagram nor Facebook contain warning labels, banners, or
22 conspicuous messaging to adequately inform adolescent users of the known product risks and
23 potential physical and mental harms associated with usage. Instead, Meta allows adolescent
24 users, including those under the age of 13, to easily create an account (or multiple accounts) and
25 fully access these products.

26 262. Meta’s failure to warn adolescent users continues even as adolescents exhibit
27 problematic signs of addiction to and compulsive use of Facebook or Instagram. For example,
28

1 Meta does not warn users when their screen time reaches harmful levels or when adolescents are
2 accessing the product habitually.

3 263. Despite proactively providing adolescent users with countless filtering and editing
4 tools, Meta also does not appropriately warn adolescent users regarding which images have been
5 altered or the mental health harms associated with the heavily filtered images that Meta presents
6 and recommends.

7 264. Not only does Meta fail to adequately warn users regarding the risks associated
8 with Instagram and Facebook, it also does not provide sufficient instructions on how adolescents
9 can safely use the products.

10 265. Meta's failure to adequately warn and instruct as set forth herein has proximately
11 caused significant harm to the mental and physical well-being of young users.

12 **D. SNAP MARKETS AND DESIGNS SNAPCHAT TO ADDICT YOUNG**
13 **USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL**
14 **HEALTH CRISIS**

15 266. Snap Inc. calls itself “a camera company.”²¹¹ Its “flagship product, Snapchat, is a
16 camera application that was created to help people communicate through short videos and
17 images. [Snap] calls each of those short videos or images a Snap.”²¹² Snap's design of its
18 Snapchat product capitalizes on children's increasing attachment to quick, instantaneous
19 exchanges. As Snap's founder and CEO Evan Spiegel has explained, “today... pictures are being
20 used for talking. So when you see your children taking a zillion photos of things that you would
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23 ²¹¹ Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 1 (Feb. 2, 2017),
24 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>; *See*
25 *also, Snap – Who We Are*, Snap Inc.; (“We believe that reinventing the camera represents our
26 greatest opportunity to improve the way people live and
communicate.”).<https://careers.snap.com/en-US> (“We believe that reinventing the camera
represents our greatest opportunity to improve the way people live and communicate.”).

27 ²¹² Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 1 (Feb. 2, 2017),
28 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

1 never take a picture of, it's cos [sic] they're using photographs to talk. And that's why people are
2 taking and sending so many pictures on Snapchat every day.”²¹³

3 267. Spiegel's statement is telling, as Snap has tailored every aspect of its Snapchat
4 product to children rather than adults. Snap designed and implemented dangerous features in
5 Snapchat that exploit children's need for social acceptance and rewards by pushing its users to
6 maximize their use of and engagement with the app. Snap built Snapchat using manipulative
7 techniques to compel young users to send an ever-increasing number of photographs and videos,
8 and to reward users who maximize their engagement with elevated status. Snap also dangerously
9 encourages adolescents to increase engagement on the app indiscriminately, pushing tools to
10 share sensitive material with an ever-expanding group of friends and strangers.

11 268. Snapchat's design features cause its young users to suffer increased anxiety,
12 depression, disordered eating, sleep deprivation, suicide, and other severe mental and physical
13 injuries. Snap knows or should have known this. Snap intentionally designed Snapchat to prey on
14 the neuropsychology and behavioral patterns of children to maximize their engagement and
15 increase Snap's advertising revenue. Despite this knowledge, Snap continues to update its
16 product and add features intentionally designed to entice, exploit, and addict kids, including Snap
17 Streaks, trophies, social signifiers and reward systems, quickly disappearing messages, filters,
18 lenses, and games.

19 269. Snap knew, or should have known, that its conduct has negatively affected youth.
20 Snap's conduct has been the subject of inquiries by the United States Senate regarding
21 Snapchat's use “to promote bullying, worsen eating disorders, and help teenagers buy dangerous
22 drugs or engage in reckless behavior.”²¹⁴ Further, Senators from across the ideological spectrum
23

24 ²¹³ Stuart Dredge, *What is Snapchat? CEO Evan Spiegel explains it all for parents*, The
25 Guardian, June 15, 2015, <https://www.theguardian.com/technology/2015/jun/17/what-is-snapchat-evan-spiegel-parents>.

26 ²¹⁴ Bobby Allyn, *4 Takeaways from the Senate child safety hearing with YouTube, Snapchat and*
27 *TikTok*, National Public Radio (Oct. 26, 2021),
28 <https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing>.

1 have introduced bills that would ban many of Snapchat’s features that are particularly addictive
2 to adolescents.²¹⁵

3 270. Despite these calls for oversight from Congress, Snap has failed to curtail its use
4 of features such as streaks, badges, and other awards that reward users’ level of engagement with
5 Snapchat. As described in detail below, Snapchat is a product that causes harm to children, the
6 target audience for whom Snap designed and to whom it promoted its product.

7 **1. Background and overview of Snapchat.**

8 271. Snapchat was created by three college students in 2011 and first released for
9 iPhones in September 2011. Snapchat quickly evolved from its origin as a disappearing-message
10 chat application after Snap’s leadership made design changes and rapidly developed new product
11 features. As a result of its design and implementation of dangerous and addictive features
12 specifically targeting youths (described below), Snapchat quickly became widely used among
13 children.

14 272. Snap marketed Snapchat as “temporary social media” that would allow users to
15 show a more authentic, unpolished, and spontaneous side of themselves.²¹⁶ Snapchat’s central
16 and defining feature, the “Snap,” allows users to send and receive ephemeral, or “disappearing,”
17 audiovisual messages. That feature foreseeably and quickly drove users to exchange sexually
18 explicit “Snaps,” sometimes called “sexts” even though they are photos. Because of its brand
19 identity among millennials as the original ephemeral-messaging app, Snapchat almost
20 immediately became known as the “sexting” app—a fact that Snap was or should have been on
21 notice of from public sources.²¹⁷

22 ²¹⁵ See Abigail Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, National
23 Public Radio (Aug. 3, 2019), <https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill>; Social Media Addiction Reduction Technology Act, S. 2314, 116th Cong. (2019); Kids Internet Design and Safety Act, S. 2918, 117th Cong. (2021).

24 ²¹⁶ Jenna Wortham, *A Growing App Lets You See It, Then You Don’t*, New York Times (Feb. 9,
25 2013), https://www.nytimes.com/2013/02/09/technology/snapchat-a-growing-app-lets-you-see-it-then-you-dont.html?_r=0.

26 ²¹⁷ Megan Dickey, *Let’s Be Real: Snapchat Is Totally Used For Sexting*, Bus. Insider (Nov. 30,
27 2012), <https://www.businessinsider.com/snapchat-growth-sexting-2012-11>; Billy Gallagher, *No, Snapchat Isn’t About Sexting, Says Co-Founder Evan Spiegel*, TechCrunch (May 12, 2012),

1 273. Snapchat creates images and GIFs for users to incorporate into their videos and
2 picture postings. Snap has also acquired publishing rights to thousands of hours of music and
3 video which it provides to Snapchat users to attach to the videos and pictures that they send.

4 **2. Snap targets children.**

5 **a. Snap has designed its Snapchat product to grow use by**
6 **children to drive the company's revenue.**

7 274. Within five months of launching, Snapchat had 40,000 users.²¹⁸ By May 2012,
8 less than eight months after launching, CEO Evan Spiegel reported that the company was
9 “thrilled” to learn that most of Snapchat’s users were high school students sending “behind-the-
10 back photos of teachers and funny faces” to each other during class. According to Spiegel,
11 Snap’s server data showed peaks of activity during the school day.²¹⁹

12 275. Snap immediately focused on increasing the product’s frequency of use.²²⁰ By late
13 2012, Snapchat had over a million active users sending over 20 million Snaps per day.²²¹ By
14 2013, Snapchat users were sending over 60 million Snaps per day.²²² By the end of 2022, this
15 number has risen to over 5 billion Snaps per day.²²³

18 <https://techcrunch.com/2012/05/12/snapchat-not-sexting/b> (describing an interview in which a
19 journalist asked the CEO of Snap about the product’s potential use for sexting).

20 ²¹⁸ Ken Auletta, *Get Rich U*, New Yorker (Apr. 30, 2012),
<https://www.newyorker.com/magazine/2012/04/30/get-rich-u>.

21 ²¹⁹ Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012),
available at <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.

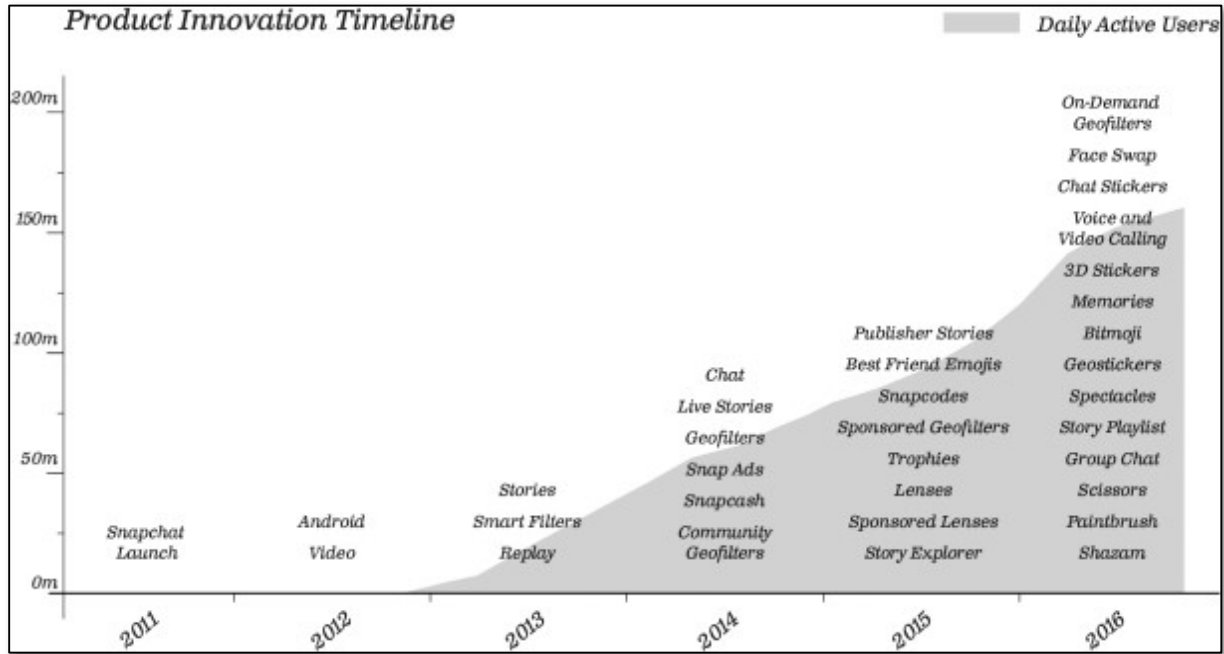
22 ²²⁰ Billy Gallagher, *You Know What’s Cool? A Billion Snapchats: App Sees Over 20 Million*
Photos Shared Per Day, Releases On Android, TechCrunch (Oct. 29, 2012),
23 <https://techcrunch.com/2012/10/29/billion-snapchats/>.

24 ²²¹ Billy Gallagher, *You Know What’s Cool? A Billion Snapchats: App Sees Over 20 Million*
Photos Shared Per Day, Releases On Android, TechCrunch (Oct. 29, 2012),
<https://techcrunch.com/2012/10/29/billion-snapchats/>.

25 ²²² Billy Gallagher, *Snapchat Raises \$13.5M Series A Led By Benchmark, Now Sees 60M Snaps*
Sent Per Day, TechCrunch (Feb. 9, 2013), [https://techcrunch.com/2013/02/08/snapchat-raises-](https://techcrunch.com/2013/02/08/snapchat-raises-13-5m-series-a-led-by-benchmark-now-sees-60m-snaps-sent-per-day/)
26 [13-5m-series-a-led-by-benchmark-now-sees-60m-snaps-sent-per-day/](https://techcrunch.com/2013/02/08/snapchat-raises-13-5m-series-a-led-by-benchmark-now-sees-60m-snaps-sent-per-day/).

27 ²²³ Snap Inc. Q4 2022 Investors Meeting Transcript at p. 7 (Jan. 31, 2023),
<https://s25.q4cdn.com/442043304/files/transcript/snap-inc.-q4-2022-transcript.pdf>.

1 276. As Snap continued to quickly add new features to its product, the number of
 2 Snapchat’s daily active users (users who open Snapchat at least once during a 24-hour period)
 3 rapidly increased.²²⁴ In 2017, Snap reported that its users opened the product more than 18 times
 4 a day on average. By 2019, users were opening the product an average of 30 times per day.



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17 277. Today, Snapchat is one of the world’s most widely used apps. By its own
 18 estimates, Snapchat has 363 million daily users, including 100 million daily users in North
 19 America.²²⁶ Snapchat also “reaches 90% of the 13-24 year old population” in over twenty
 20 countries, and reaches nearly half of all smartphone users in the United States.²²⁷

23 ²²⁴ Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 91 (Feb. 2, 2017),
 24 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

25 ²²⁵ Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 91 (Feb. 2, 2017),
 26 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>.

27 ²²⁶ October 2022 Investor Presentation at 5, Snap Inc. (Oct. 20, 2022),
 28 <https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

²²⁷ October 2022 Investor Presentation at 6-7, Snap Inc. (Oct. 20, 2022),
<https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

1 278. Snapchat’s explosive growth is driven by its key user demographic, 13-17 year
2 olds. In 2022, 59% of US teens used Snapchat and 15% said they used it “almost constantly.”²²⁸

3 279. In 2014, Snap began running advertisements on Snapchat.²²⁹ Snapchat’s entire
4 business model revolves around its advertising revenue. According to internal company records,
5 advertisements were pervasive on Snapchat by 2015 and, by 2018, 99% of Snap’s total revenue
6 came from advertising. Advertising has accounted for 99% of Snap’s revenue each year since
7 2018.²³⁰ In 2022, Snap’s revenue was approximately \$4.6 billion.²³¹

8 280. Snap attracts advertisers by providing them access to the huge universe of
9 Snapchat users and by collecting immense amounts of data on its users, including its pre-teen
10 and teenage users, which it uses to target advertising to those users. Snap makes no secret of this
11 practice, recently acknowledging that it relies “heavily on our ability to collect and disclose data,
12 and metrics to our advertisers so we can attract new advertisers and retain existing advertisers.
13 Any restriction or inability, whether by law, regulation, policy, or other reason, to collect and
14 disclose data and metrics which our advertisers find useful would impede our ability to attract
15 and retain advertisers.”²³²

16 281. Snap’s growth in advertising revenues was driven by changes Snap made to
17 Snapchat that incentivized compulsive and addictive use at the expense of its users’ health.

18 282. Snap understands that its user experience must be immersive and all-
19 encompassing in order to maximize its advertising revenue. Indeed, Snap recently admitted to its
20 investors that its revenue could be harmed by, among other things, “a decrease in the amount of
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22 ²²⁸ Pew Research Center, *Teens, Social Media and Technology 2022* (Aug. 10, 2022),
<https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

23 ²²⁹ Angela Moscaritolo, *Snapchat Adds ‘Geofilters’ in LA, New York*, PC Mag. (July 15, 2014),
<https://www.pcmag.com/news/snapchat-adds-geofilters-in-la-new-york>.

24 ²³⁰ Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

25 ²³¹ Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

26 ²³² Snap Inc. Form 10-K at 18 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

1 time spent on Snapchat, a decrease in the amount of content that our users share, or decreases in
2 usage of our Camera, Visual Messaging, Map, Stories, and Spotlight platforms.”²³³

3 **b. Snap promotes Snapchat to children.**

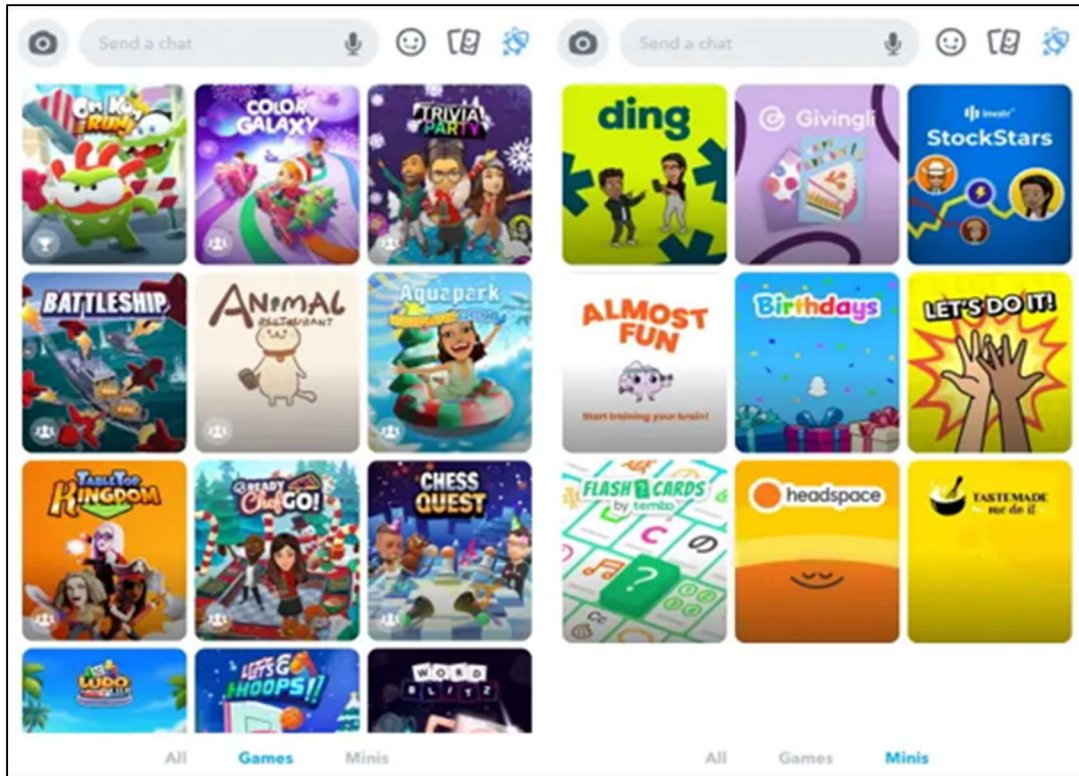
4 283. Snap specifically promotes Snapchat to children because they are a key
5 demographic for Snap’s advertising business.

6 284. In its first post on its website, Snapchat observed that “[t]o get a better sense of
7 how people were using Snapchat and what we could do to make it better, we reached out to some
8 of our users. *We were thrilled to hear that most of them were high school students* who were
9 using Snapchat as a new way to pass notes in class—behind-the-back photos of teachers and
10 funny faces were sent back and forth throughout the day.”²³⁴

11 285. As shown in this capture of a Snapchat feature page created by Snap, Snap uses
12 bright colors, cartoonish designs, and other features that appeal to younger audiences.

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26 ²³³ Snap Inc. Form 10-K at 19 (Dec. 31, 2022), <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf>.

27 ²³⁴ Team Snapchat, *Let’s Chat*, Snapchat Blog at <http://blog.snapchat.com> (May 9, 2012),
28 <https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/>.



286. Similarly, in an October 2019 interview, Snap’s CEO explained that “we’ve seen a lot of engagement with our 13-34 demographic, which for us is strategically a critical demographic, not only because that’s a demographic that enjoys using new products but also because I think they represent, really, the future . . . So that’s obviously been a group that’s been really fun to build for, and really it started because those are our friends.”²³⁵

287. Snap touts to advertisers its ability to use Snapchat to reach children. In a December 2022 statement to advertisers, Snap claimed that “Snapchat delivers on the emotions that Gen Z seeks and it does so consistently across the platform in areas like Discover, Stories and the Camera.”²³⁶ To prove that, Snapchat “used a neuroscience measurement called Immersion to measure reactions to different brand messaging—specifically brand purpose messaging vs. non-brand purpose messaging. Immersion captures attention and emotional

²³⁵ Evan Spiegel, Co-Founder and CEO of Snap, Inc., Goldman Sachs, at 4:43-6:23. (Oct. 2, 2019), <https://www.youtube.com/watch?v=PQiKv-GCQ-w>.

²³⁶ Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022), <https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>.

1 resonance through variations in heart rate rhythm collected by smartwatches.”²³⁷ Per Snapchat,
2 “[a]ny brand or marketer can get on any app and *start targeting Gen Z [emphasis added]*. After
3 all, Gen Z is digitally native. But to effectively connect and engage with this generation, that
4 takes a different, more intentional type of platform- Snapchat.”²³⁸

5 288. Advertisers have responded, pouring into Snapchat money clearly intended for
6 advertising aimed at children. Brands like candy manufacturer Sour Patch Kids, children’s toy
7 store ToysRUs, and sugary beverage seller Kool-Aid have all run successful advertising
8 campaigns through Snapchat, frequently using augmented reality tools developed in
9 collaboration with Snapchat.



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26 ²³⁷ Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022),
<https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>

27 ²³⁸ Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022),
<https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want>.

1 289. Snapchat’s age verification systems are defective. For the first two years of its
2 existence, Snap did not even purport to limit user access to those 13 or older.²³⁹ Users were not
3 required to input a date of birth when creating an account.²⁴⁰

4 290. In 2013, Snap belatedly introduced age limits (which, as explained below, it does
5 not effectively enforce). At the same time, Snap launched a new feature called “Snapkidz” aimed
6 at and designed to attract younger children users, while hedging against the potential user loss
7 due to the new age limits. The Snapkidz feature allowed children under the age of 13 to take
8 filtered photos, draw on them, save them locally on their devices, send them to others, and
9 upload them to other apps.²⁴¹ Although this version prevented children from sharing “Snaps” on
10 the product, it nonetheless exposed children to Snapchat’s features, which normalized and
11 acclimatized children to using Snapchat. In addition, nothing prevented children from creating an
12 unrestricted account with a false date of birth on Snapchat and using the product outside the
13 SnapKidz’s limited features.²⁴²

14 291. The SnapKidz feature was discontinued in or around 2016. Snap now purports to
15 prohibit users under the age of 13. But nothing prohibits the minor user from simply altering
16 their birthdate during the same session where they were just denied an account for being an
17 underage user. Snap could have implemented robust, effective age verification protocols.
18 Instead, it has set up its business and product so that nothing is done to verify the age of its users
19 or to enforce its age limitations. Snap could, but intentionally does not, verify the phone number,
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21 ²³⁹ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
22 <https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

23 ²⁴⁰ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
24 <https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

25 ²⁴¹ Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013),
26 <https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/>.

27 ²⁴² See Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June
28 23, 2013), <https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a>; Anthony Cuthbertson, *Snapchat admits its age verification system does not work*, Independent (Mar. 19, 2019), <https://www.independent.co.uk/tech/snapchat-age-verification-not-work-underage-ageid-a8829751.html>.

1 email address, or birthdate used to create accounts, and it allows users to create multiple
2 accounts using the same email address or phone number.

3 292. Snap’s executives have admitted that Snapchat’s age verification “is effectively
4 useless in stopping underage users from signing up to the Snapchat app.”²⁴³ Not surprisingly,
5 underage use is widespread. As of 2021, 13% of children ages 8-12 use Snapchat.²⁴⁴

6 293. Once Snapchat is installed on a user’s mobile phone, the product continues to
7 download and install updates, design changes, and new features from Snapchat directly to its
8 users.

9 294. Similarly, the absence of effective age-verification measures means that users
10 who are older can claim to be children—which is an obvious danger to the actual children on
11 Snap’s product.

12 **3. Snapchat is designed to addict children through psychological**
13 **manipulation.**

14 295. Once Snap entices children to use its product, it uses a series of product features
15 that are designed to addict children. As laid out below, those features can be broadly grouped
16 into two categories that exploit techniques discussed earlier in this Complaint. The first are social
17 metrics and other similar psychological manipulation techniques. The second are features
18 designed to encourage endless passive consumption of content on the Snapchat product. These
19 features, in tandem with each other and the other harmful features described throughout this
20 section and Complaint, induce addiction, compulsive use, and other severe mental and physical
21 harm to the child users of the Snapchat product.

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²⁴³ Isobel Asher Hamilton, *Snapchat admits its age verification safeguards are effectively*
25 *useless*, Bus. Insider (Mar. 19, 2019), <https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3>.

26 ²⁴⁴ Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens*, 2021 at 5,
27 Common Sense Media, https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

1 a. **Snap designed Snapchat to drive compulsive use through a set**
2 **of social metrics and other manipulation techniques that**
3 **induce compulsive use.**

4 296. Snapchat includes a variety of social metrics—such as Snapscores, Snap Streaks,
5 and Snap Awards—that reward users when they engage with Snapchat and punish them when
6 they fail to engage with Snapchat. Internal research by Snap has found these psychological
7 manipulation techniques are highly effective at instilling anxiety about not using Snapchat
8 frequently enough—and competitor research has confirmed these features are addictive. In
9 tandem with Intermittent and Variable Rewards (“IVR”), like push notifications and design
10 choices that make it difficult to stop using the Snapchat product, these induce compulsive use of
11 the product by children.

12 297. These manipulation techniques are so effective in part because Snapchat’s
13 disappearing messages themselves create a compulsion to engage with the Snapchat product.
14 Because Snaps typically disappear within ten seconds of being viewed, users feel compelled to
15 reply immediately. Snap activates the psychological desire to reciprocate the social gesture of
16 sending a Snap.²⁴⁵ Snapchat also tells users each time they receive a Snap by pushing a
17 notification to the recipient’s device. These notifications are designed to prompt users to open
18 Snapchat repetitively, increasing the overall time spent on the app.

19 **(i) Snapscores**

20 298. Snapscores were one of the earliest features of the Snapchat product. Almost as
21 soon as Snapchat launched, Snap gave users the ability to draw and color on Snaps and add a
22 short text caption before sending. An Android version of the app, video sharing, and user profiles
23 with “Snapscores” soon followed.²⁴⁶

24

²⁴⁵ Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015),
25 <https://www.nirandfar.com/psychology-of-snapchat/>.

26 ²⁴⁶ Snap Inc. Form S-1 Registration Statement (*hereafter* “Form S-1”) at 91 (Feb. 2, 2017),
27 <https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm>;
28 Katie Notopoulos, *The Snapchat Feature That Will You’re your Life*, BuzzFeed News (Dec. 5,
2012), □

1 299. Originally called “Hiscore,” Snapscore keeps a running profile score based on a
2 user’s Snapchat activity levels, such as the number of Snaps sent and received or Stories
3 posted.²⁴⁷ The sole purpose of Snapscore is to increase product use and drive revenue.²⁴⁸



12 300. Although Snap does not disclose precisely how Snapscores work, sending and
13 receiving a Snap increases the score by one point. Interacting with other product features
14 provides additional points. A user’s Snapscore is visible on their profile, serves as a signifier of
15 the user’s “worth,” and encourages users to further engage with Snapchat’s features to increase
16 their score. Snapscores are important to users, especially young users, because they operate as a
17 form of social validation, similar to an Instagram “Like.” Google has reported millions of
18 searches for “How to improve Snap score.” YouTube contains numerous videos with titles like
19 “How to Increase Snapchat Score Fast.”²⁴⁹

20 301. Snapscores reward users who post videos that are viewed extensively. This
21 encourages many to use Snapchat in harmful and dangerous ways, to increase the virality of their
22

23 ²⁴⁷ Snapchat Support, *What is a Snap Score?*, (“Your Snapchat score is determined by a super-
secret, special equation... 🤖”) <https://support.snapchat.com/en-US/a/my-score> (“Your Snapchat
score is determined by a super-secret, special equation... 🤖”).

24 ²⁴⁸ Brad Barbz, *2020 NEW * *How To Increase Snapscore By Up To 1000 Per Minute On IOS
And Android - Working 2020*, YouTube (Dec. 4, 2019),
25 https://www.youtube.com/watch?v=Mo_tajuofLA.

26 ²⁴⁹ FozTech, *How to Increase Snapchat Score Fast! (100% Works in 2023)*, YouTube (Oct. 1,
2019), <https://www.youtube.com/watch?v=m7s0hvQdTok> (*How to Increase Snapchat Score
Fast* has 4.2 million views as of January 10, 2023).
27
28

1 videos and increase their Snapscore. As more users engage with and forward that video to others,
2 its creator is awarded with an increased Snapscore. Snapchat’s rewards incentivize this
3 dangerous behavior, resulting too often in physical harm or humiliation in the obsessive pursuit
4 of social significance.

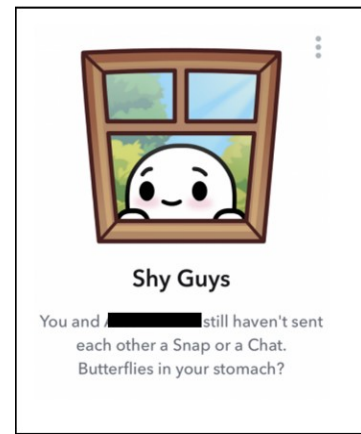
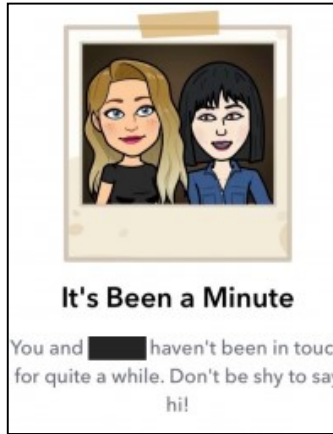
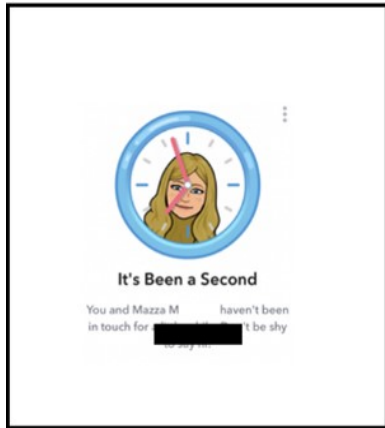
5 **(ii) Trophies, Charms, and Stickers**

6 302. Snap has also designed Snapchat to include user rewards, including trophies and
7 other social recognition signals, similar to “Likes” on other apps. These features are highly
8 addictive and drive compulsive use.

9 303. “Trophies” are emojis awarded for achieving engagement milestones or
10 performing certain activities, such as increasing one’s Snapscore, sending creative Snaps, or
11 posting a live story. A user’s “Trophies” are displayed in a “trophy box” viewable by their
12 friends. Snap designed this feature to encourage users to share their videos and posts with the
13 public, promote greater use of Snapchat, and deepen young users’ addiction to and compulsive
14 use of the product.

15 304. In 2020, Snap phased out Trophies and replaced them with “Charms.” Unlike
16 Trophies, where users were rewarded for unlocking individual accomplishments like sending
17 1,000 selfies, Charms reward users for achieving certain milestones in their relationship with
18 other users. Typically, the more users interact with one another, the more Charms they unlock in
19 their relationship. Charms are private and viewable only by users’ mutual contacts.

20 305. For example, if two users are at the top of each other’s friends list, meaning they
21 exchange frequent Snaps, they may unlock a “BFF (Best Friends Forever)” Charm. Conversely,
22 the “It’s Been Forever” and “It’s Been a Minute” Charms may be awarded to friends who are
23 infrequently in contact, to prompt their engagement with one another on Snapchat. Although
24 there are a number of different Charms awarded for various reasons, all of them encourage user
25 interaction, furthering engagement and buy-in to Snap’s reward system. This in turn exacerbates
26 social-comparison harms and undermines self-esteem.



306. Snap incorporates other product features that, like Charms and Trophies, serve no functional purpose, but make Snapchat more appealing and lead to excessive use by children and teens. For example, Snap has developed images called “Stickers” for users to decorate the pictures or videos they post. Snap also offers app-specific emojis and animations that users can apply to their photos or videos.

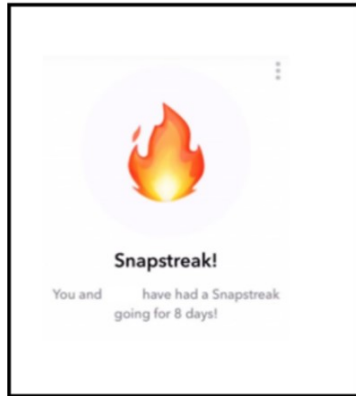
307. Snap designed each of these features to function as rewards for increased engagement, exploit underage users’ desire for social validation, and ultimately compel them to use Snapchat excessively. Because many of these rewards and scores are visible to others, these features tap into adolescents’ deep-seated need for acceptance. By exploiting this need, Snap increases time spent engaging with its product and thereby its profits.

(iii) Snap Streak

308. The “Snap Streak” is unique to Snapchat and is an addictive feature “especially to teenagers.”²⁵⁰ A Snap Streak is designed to measure a user’s Snapchat activity with another user.

²⁵⁰ See Cathy Becker, *Experts warn parents how Snapchat can hook in teens with streaks*, ABC News (July 27, 2017), <https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296>; Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>; see generally Virginia Smart & Tyana Grundig, *‘We’re designing minds’: Industry insider reveals secrets of addictive app trade*, CBC (Nov. 3, 2017), <https://www.cbc.ca/news/science/marketplace-phones-1.4384876>; Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

1 Two users achieve a Snap Streak when they exchange at least one Snap in three consecutive 24-
2 hour periods. When the Streak is achieved, users receive a fire emoji next to their profile avatar.
3 Over time, users may be rewarded with additional emojis signifying their Streak. If users reach a
4 Streak of 100 days, for example, each receives a 100 emoji.

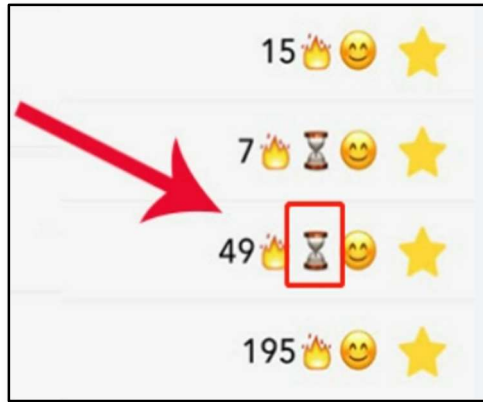


12 309. Snap Streak emojis are similar to Charms in that they reward users for interaction
13 and are viewable only by mutual friends.

14 310. It is a matter of common knowledge in the social media industry that the Snap
15 Streak product feature is designed to be addictive. Nonetheless, Snap continues to provide this
16 feature to its adolescent users.

17 311. Worse still, to manufacture deeper addiction to its product, Snap sends
18 notifications to users with an hourglass emoji when Streaks are about to expire—to create extra
19 urgency, nudge users to keep their Streaks alive, and maintain a system where a user must
20 “check constantly or risk missing out.”²⁵¹

26 _____
27 ²⁵¹ Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017),
28 <https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streaker>.



312. This feature is particularly effective with teenage users since Streaks are “a vital part of using the app and their social lives as a whole.”²⁵² Some children become so obsessed with maintaining their Streaks that they give their friends access to their accounts when they may be away from their phone for a day or more.²⁵³ Aware of how important maintaining a Snap Streak is to its users, Snap has even launched a special form on its support website allowing users who lost their streak to petition to get it back.²⁵⁴

313. Snap Streaks contribute to feelings of social pressure and anxiety when users lose or break a Streak. Researchers have found that losing a Streak can cause feelings of betrayal for some users, especially girls, who reported “negative” feelings when losing a Streak with one of their friends.²⁵⁵

314. Streaks are important to users. However, these design features do not enhance the communication function of the product. Instead, they exploit users’ susceptibility to social

²⁵² Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17, 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>.

²⁵³ Caroline Knorr, *How to resist technology addiction*, CNN (Nov. 9, 2017), <https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html>; Jon Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9, 2017), <https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked>.

²⁵⁴ Snapchat Support, Contact Form, <https://support.snapchat.com/en-US/i-need-help?start=5695496404336640>.

²⁵⁵ Hristoya et al., “*Why did we lose our snapchat streak?*” Social media gamification and metacommunication. *Computers in Human Behavior Reports*, 5, 100172 (2022).

1 pressure and to the compulsive accumulation of other rewards, including Snap Score points and
2 Charms.

3 **(iv) Push Notifications**

4 315. In addition to Snapchat’s in-app reward features, Snap also sends push
5 notifications and emails to encourage addictive engagement and increase use. Notifications are
6 triggered based on information Snap collects from, and about, its users. Snap “pushes” these
7 communications to users excessively and at disruptive times of day. Snap has even designed the
8 format of these notifications to pull users back onto its app by preying on their fear of missing
9 out—never mind the consequences to their health and well-being.

10 **(v) Impediments to Discontinuing Use**

11 316. Snap has intentionally and defectively designed its products so child users face
12 significant navigational obstacles and hurdles when trying to delete or deactivate their Snapchat
13 accounts, despite the ease with which a user can create one. For example, when a user elects to
14 delete their account, they cannot do so on demand. The data and the account are preserved for 30
15 days. In addition, after initiating the deletion process, the user is presented with a black screen
16 depicting a crying emoji and a message that reads, “Your account will be deactivated, which
17 means friends won’t be able to contact you on Snapchat. You’ll also lose any Chats you’ve saved
18 and Snaps and Chats you haven’t opened.”²⁵⁶

19 317. This cumbersome process prioritizes user retention and continued use over the
20 well-being of Snapchat’s users.

21 **b. Snap’s defective features are designed to promote compulsive**
22 **and excessive use.**

23 **(i) “Stories” and the “Discover” Interface**

24 318. In October 2013, Snap added “Stories,” a feature that generates a compilation of
25 its users’ designated photos and videos that expire in 24 hours and can be viewed an unlimited
26

27 ²⁵⁶ See Snapchat Support, *How do I delete my Snapchat account?*,
<https://support.snapchat.com/en-US/a/delete-my-account1>

1 number of times by friends or anyone on Snapchat if the user sets the visibility setting to
2 Everyone.²⁵⁷ Within eight months of launching the Stories feature, users were viewing more
3 Stories per day than Snaps.²⁵⁸

4 319. Snap’s Stories feature includes a running view count and list of viewers for each
5 Story, both of which provide users with dopamine-triggering feedback that encourages users to
6 make their Stories visible to everyone in order to increase the view count. The view count, view
7 list, and ephemeral nature of Stories also reinforces the principle of reciprocity and compels
8 users to monitor Stories, so they do not miss out.

9 320. In 2016, Snap updated the Stories feature to include recommendations based on
10 an algorithm that considers “proximity, time, interestingness, or other such metrics.”²⁵⁹ That
11 same year, Snap introduced ads between Stories and updated Stories to include “Auto-Advance,”
12 a feature that starts a new Story automatically after the preceding one ends.²⁶⁰ This creates an
13 endless cycle of consumption that Snap knows, or should know, is detrimental to users’ mental
14 health.²⁶¹ Nevertheless, Snap designed and implemented this feature because it is proven to
15 induce a flow state that increases product use, regardless of whether the use is healthy or
16 enjoyable. Unsurprisingly, one study of over 2,000 UK residents found 68% of respondents who
17 used Snapchat reported that “the platform prevented them from sleeping.”²⁶²

18 ²⁵⁷ Darrell Etherington, *Snapchat Gets Its Own Timeline With Snapchat Stories, 24-Hour Photo*
19 *& Video Tales*, TechCrunch (Oct. 3, 2013), <https://techcrunch.com/2013/10/03/snapchat-gets-its-own-timeline-with-snapchat-stories-24-hour-photo-video-ales/>.

20 ²⁵⁸ Ellis Hamburger, *Surprise: Snapchat’s most popular feature isn’t snaps anymore*, The Verge
21 (Jun. 20, 2014), <https://www.theverge.com/2014/6/20/5827666/snapchat-stories-bigger-than-snaps-electric-daisy-carnival>

22 ²⁵⁹ Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234,
USPTO (Mar. 29, 2016), <https://patents.justia.com/patent/20170289234>.

23 ²⁶⁰ James Vincent, *Snapchat will start showing ads between your friends’ stories*, The Verge
24 (Jun. 14, 2016), <https://www.theverge.com/2016/6/14/11930386/snapchat-ads-api-stories>;
Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234, USPTO
(Mar. 29, 2016), <https://patents.justia.com/patent/20170289234>.

25 ²⁶¹ See, e.g., Gino Gugushvili et al., *Facebook use intensity and depressive symptoms: a*
26 *moderated mediation mode of problematic Facebook use, age, neuroticism, and extraversion* at 3,
BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

27 ²⁶² Frazer Deans, *Curb Your Snapchat Addiction*, <https://www.wholesome.design/advent-2018/2-curb-your-snapchat-addiction/>.

1 4. **Snap designed Snapchat with features that harm children directly or**
2 **expose children to harm.**

3 325. Snapchat further contains a number of features which foreseeably cause children
4 harm above and beyond harms inherent in addiction and compulsive use.

5 a. **Disappearing “Snaps” and “My Eyes Only” encourage**
6 **destructive behavior among Snap’s teen users.**

7 326. As discussed above, Snapchat’s “Snap” feature allows users to send and receive
8 ephemeral, or “disappearing,” audiovisual messages. Prior to sending a Snap, a user can
9 designate the period of time—typically no more than a few seconds—that the recipient will be
10 allowed to view the Snap. According to Snapchat, once the allotted time expires, the Snap
11 disappears forever.

12 327. Snapchat’s limited display time reduces teenagers’ communication apprehension
13 and encourages users to send photos depicting deviant behavior.²⁶⁶ Sexting is a prime example,
14 but cyberbullying, underage alcohol consumption, and illicit use of narcotics are also commonly
15 the subject of Snaps. A 2016 survey of pre-teens and teens ages 12-17 found that “dick pics”
16 were among some of the unwanted content that users—predominantly females—received while
17 using the app.²⁶⁷

18 328. Disappearing Snaps do not operate as advertised. Although designed to disappear
19 after an allotted time, recipients possess the ability to save or record them at will. This is
20 particularly harmful to adolescents, who rely on Snap’s representations when taking and sending
21 photos, and who only learn after the fact that recipients have the means to save photos or videos.
22 In some cases, this can lead to sexual exploitation.

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25 ²⁶⁶ See Vaterlaus et al., “Snapchat is more personal”: An exploratory study on Snapchat
26 behaviors and young adult interpersonal relationships, *Computers in Human Behavior*, 62, 594-
27 601 (2016).

27 ²⁶⁷ Kofoed et al., (2106) *A snap of intimacy: Photo-sharing practices among young people on*
28 *social media*, *First Monday* 21(11), <https://doi.org/10.5210/fm.v21i11.6905>.

1 329. Snap could, but does not, warn users, including children and teenagers, that Snaps
2 may not necessarily disappear.

3 330. In addition, and especially for pre-teen users, Snaps are defective because Snap’s
4 parental controls are ill-equipped to mitigate the risks posed by this feature. As set forth below,
5 even with parental controls activated, parents are unable to view a Snap’s content and therefore
6 cannot adequately protect their children and/or deter their children from engaging in dangerous
7 behavior in conjunction with sending Snaps.

8 331. “My Eyes Only” is yet another defective feature of Snapchat. This feature enables
9 and encourages users to hide harmful content from their parents in a special tab that requires a
10 passcode. Content cannot be recovered from “My Eyes Only”—allegedly even by Snap itself.
11 Snap designed “My Eyes Only” knowing it would likely be used to store potentially illegal and
12 injurious photos and images like sexts and CSAM.²⁶⁸ This dangerous product feature
13 unreasonably increases the risk that Snapchat’s adolescent users, many under age 13, will be
14 targeted and sexually exploited and/or trafficked by child predators.

15 332. The content in “My Eyes Only” self-destructs if a user attempts to access the
16 hidden folder with the wrong code. “My Eyes Only” has no practical purpose or use other than to
17 hide potentially dangerous content from parents and/or legal owners of the devices used to access
18 Snapchat. Moreover, while this information and evidence should be in Snap’s possession and
19 control, it has designed this feature in a way that causes the permanent loss of relevant, material,
20 and incriminating evidence.

21 **b. Snapchat’s “Snap Map” feature endangers children.**

22 333. Snapchat also contains a feature called “Snap Map” that allows users to share
23 their location with their followers (and the public) on an activity-level-based, color-coded
24

25 ²⁶⁸ Salvador Rodriguez, *Snapchat Finally Acknowledges the Existence of Sexting With ‘Memories’*
26 *The latest app update includes a tool called “My Eyes Only” that lets you privately store*
27 *sensitive photos and videos*, Inc., (Jul. 6, 2016), [https://www.inc.com/salvador-](https://www.inc.com/salvador-rodriguez/snapchat-memories-sexting.html)
28 [rodriguez/snapchat-memories-sexting.html](https://www.inc.com/salvador-rodriguez/snapchat-memories-sexting.html).

1 heatmap. At all relevant times, this feature has been available to all users, including minors.
2 Although users can disable “Snap Map,” this is not a default setting.

3 334. Snap Map is an unreasonably dangerous feature for underage users because it
4 provides strangers with their locations, exposing children and adolescents to potential harm.
5 Researchers have also found that Snap Map causes feelings of sadness and anxiety for some
6 users, as they jealously view their friends’ locations.²⁶⁹ For young people especially, such social
7 comparison often leads to distress and depression.

8 335. Snap Map also functions as a social metric. A report by 5Rights, a United
9 Kingdom-based children’s online safety advocacy group highlighted the experience of John, a 14
10 year old boy, who explained that “[h]aving more connections on Snapchat makes his Snap Map
11 look more crowded, which he can then show off to people in real life and therefore appear more
12 ‘popular.’”²⁷⁰

13 **c. Snapchat’s “Quick Add” feature endangers children.**

14 336. Through a feature known as “Quick Add,” Snap recommends new, sometimes
15 random friends, similar to Facebook’s “People You Might Know” feature. Suggestions are
16 formulated using an algorithm that considers users’ friends, interests, and location. Quick Add
17 encourages users to expand their friend base to increase their Snapscore by interacting with an
18 ever-expanding group of friends, which--in addition to expanding their time online--can result in
19 exposure to dangerous strangers. Of particular concern, until 2022, Quick Add’s suggestions
20 included profiles for users Snap knew to be between the ages of 13-17, meaning that Quick Add
21 could, and in fact did, recommend that a minor and adult user connect.

22 337. Criminal users interested in selling drugs to minors have utilized the Quick Add
23 feature to find random friends interested in making a purchase.

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²⁶⁹ See Dunn et al., “*Oh, Snap!*”: A Mixed-Methods Approach to Analyzing the Dark Side of
26 *Snapchat*, *The Journal of Social Media in Society*, 9(2), 69-104 (2020).

27 ²⁷⁰ 5Rights Foundation, *Pathways: How digital design puts children at risk* (July 2021),
28 <https://5rightsfoundation.com/uploads/Pathways-how-digital-design-puts-children-at-risk.pdf>.

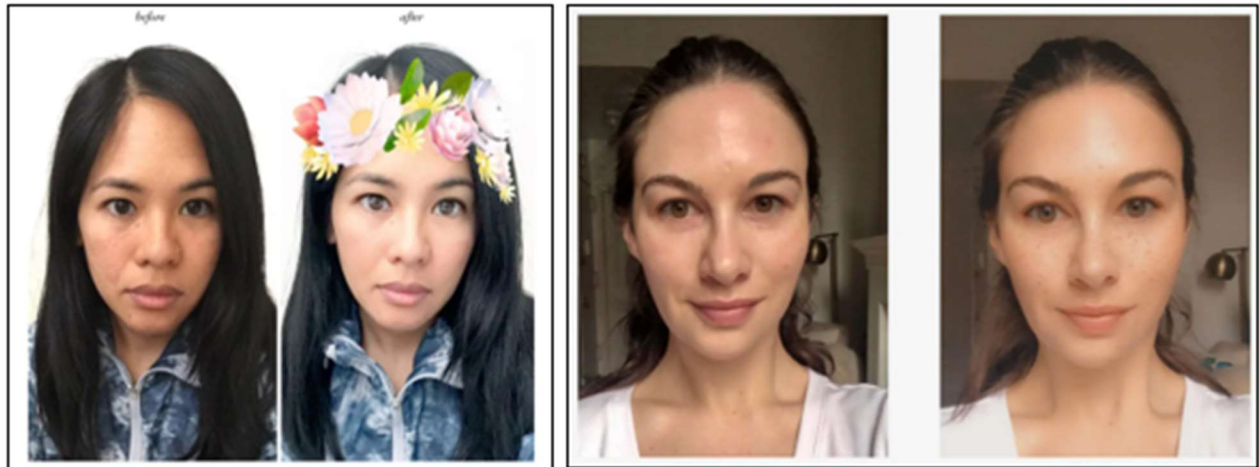
1 338. Despite these dangers Snap designed Quick Add because it increases the odds that
2 users will add friends, send more Snaps, and spend more time using Snapchat.

3 339. In 2022, Snap revised the Quick Add feature to limit the friend suggestions
4 promoted to minor users. For those aged 13 to 17, Quick Add would only suggest friends who
5 shared a certain number of common friends with the minor user. Snap did not disclose how many
6 common friends must be shared by each user to satisfy this safety feature. Further, this
7 modification to the Quick Add feature still does not prohibit the connection of minors with
8 adults.

9 d. **Snapchat’s Lenses and Filters features promote negative**
10 **appearance comparison.**

11 340. Snap also incorporates numerous custom-designed lenses and filters, which allow
12 users to edit and overlay augmented-reality special effects and sounds on their Snaps. Many of
13 Snapchat’s lenses and filters change users’ appearance and face, creating unrealistic, idealized
14 versions that cause profound body image issues in teenagers, especially girls.

15 341. Examples of these features include the Smoothing Filter, which blurs facial
16 imperfections and evens out skin tone; Bold Makeup, which adds makeup over the user’s face,
17 blurs imperfections, and evens out skin tone; Sunkissed and Cute Freckles, which adds freckles
18 over the nose and cheeks, blurs imperfections, evens out skin tone, and adjusts skin color; Face
19 and Body Mellow Glow, which smooths the face and body and adjusts skin color; and Fluffy
20 Eyelashes, which alters the shape of the user’s face by lifting their eyes and adding more
21 pronounced cheek bones. The common theme among all of these filters is that they remove the
22 subjects’ perceived blemishes to create the perfect “selfie.”



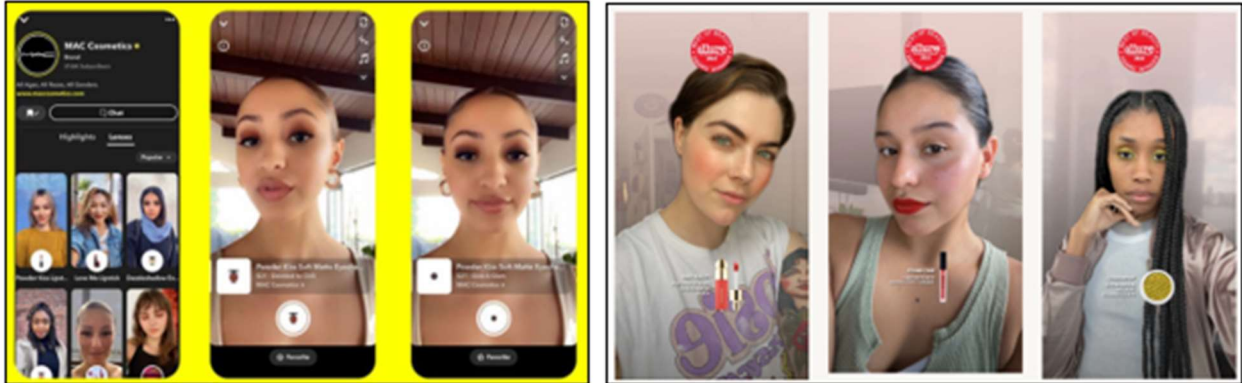
342. A 2017 study found that these features made Snapchat one of the worst social media products for the mental health of children and adolescents, behind only Instagram.²⁷¹ In recent years, plastic surgeons have reported an increase in requests for alterations that correspond to Snapchat’s filters. This has led researchers to coin the term “Snapchat Dysmorphia,” in which the effect of Snapchat’s filters triggers body dysmorphic disorder.²⁷² The rationale underlying this disorder is that beauty filters on Snapchat create a “sense of unattainable perfection” that leads to self-alienation and damages a person’s self-esteem.²⁷³ One social psychologist summarized the effect as “the pressure to present a certain filtered image on social media,”

²⁷¹ Kara Fox, *Instagram worst social media app for young people’s mental health*, CNN (May 19, 2017), <https://www.cnn.com/2017/05/19/health/instagram-worst-social-network-app-young-people-mental-health/index.html>.

²⁷² Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

²⁷³ Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; See also Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

1 which can certainly play into [depression and anxiety] for younger people who are just
2 developing their identities.”²⁷⁴



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10 343. Snap also created and promoted “smart filters” that allowed users to stamp
11 date/time, temperature, battery life, altitude, and speed on their Snaps.²⁷⁵ These filters utilize
12 sensor data on users’ devices to provide the desired filter stamp.

13 344. A particularly dangerous smart filter is the speed filter, which from 2013 to 2021
14 allowed users to record their real-life speed and overlay that speed onto Snaps. Snap knew, or
15 should have known, that the speed filter served no purpose other than to motivate, incentivize,
16 and/or encourage users to drive at dangerous speeds in violation of traffic and safety laws.
17 Indeed, soon after launching its speed filter, the feature became a viral game for users—
18 particularly teenage users—to capture photos and videos of themselves driving at 100 miles-per-
19 hour or more. Tragically, the quest to capture a 100 mile-per-hour Snap caused a number of fatal
20 vehicle accidents involving teens and young adults.²⁷⁶

21 ²⁷⁴ Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty*
22 *through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

23 ²⁷⁵ Karissa Bell, *Snapchat adds an altitude filter to show how high you are*, (Aug. 19, 2016),
24 <https://mashable.com/article/snapchat-altitude-filter-how-to>.

25 ²⁷⁶ *Did Snapchat play role in deaths of 3 young women?*, ABC6 Action News (Feb. 16, 2016),
26 <https://6abc.com/action-news-investigation-snapchat-fatal-car-crash-philadelphia/1196846/>;
27 Manpreet Darroch, *Snapchat and driving . . . you could be sending your last snap* (Apr. 25,
28 2016), <http://www.youthforroadsafety.org/news-blog/news-blog-item/t/snapchat-and-driving-hellip-you-could-be-sending-your-last-snap>; *The Most Dangerous App on Your Phone, DistractedDriverAccidents.com*, <https://distracteddriveraccidents.com/the-most-dangerous-app-on-your-phone/>.

1 345. Snap knew, or should have known, its speed filter created an unreasonable risk of
2 harm to its users and the public. Despite this knowledge, however, as well as pleas from the
3 public to disable the filter, Snap refused to remove the filter from its application until 2021.²⁷⁷

4 346. By including features like lenses, cartoonish filters, and stamps to attract ever-
5 increasing numbers of children to use and engage with its product, Snap has knowingly created a
6 product that leads to excessive use by children and teens and causes them to suffer harm.

7 **5. Snap has implemented ineffective and misleading parental controls,**
8 **further endangering children.**

9 347. Snap has also designed and set up Snapchat with inadequate parental controls.

10 348. From Snapchat’s launch in 2011 until August 2022, Snapchat had no parental
11 controls even though its core user base was under the age of 18 and a significant number of those
12 users were under the age of 13.

13 349. In August 2022, Snap introduced the “Family Center.” The features and processes
14 offered through the Family Center are woefully inadequate to protect teen and pre-teen users.
15 The Family Center allows a parent or guardian to install Snapchat on their phone and then link to
16 the child’s account. The parent or guardian can then see who the child user is communicating
17 with. However, the content of these communications remains hidden and still disappears after the
18 allotted time. In addition, the Family Center does not allow a parent or guardian to block minors
19 from sending private messages, control their child’s use or engagement with many of Snapchat’s
20 product features, control their child’s use of Snapchat’s geolocation feature, or control who their
21 child may add to their friend list. Finally, the Family Center fails to help a parent monitor their
22 child’s account when the child has secretly created a Snapchat account without the parents’
23 knowledge in the first place.

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26 ²⁷⁷ Bobby Allyn, *Snapchat Ends ‘Speed Filter’ That Critics Say Encouraged Reckless Driving*,
27 NPR (June 17, 2021), [https://www.npr.org/2021/06/17/1007385955/snapchat-ends-speed-filter-
28 that-critics-say-encouraged-reckless-driving](https://www.npr.org/2021/06/17/1007385955/snapchat-ends-speed-filter-that-critics-say-encouraged-reckless-driving).

1 **6. Snap facilitates the spread of CSAM and child exploitation.**

2 350. Despite being marketed to and designed for children, Snapchat includes a number
3 of features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM,
4 sextortion, and other socially maladaptive behavior that harms children. Snap knows or should
5 have known that its product features are unsafe for children and that it fails to implement
6 reasonable, child-protective safeguards. For example, by failing to age-restrict its Discover
7 feature, Snapchat’s algorithm has recommended inappropriate sexual content to adolescent users.
8 By promoting the connection between minors and adults, it is facilitating child exploitation and
9 predation. By failing to implement parental controls that give parents true control over their
10 children’s activity, Snap allows harmful interactions with predators to continue unnoticed.

11 351. Like the other Defendants, as a direct consequence of the child exploitation that
12 occurs on its platform, Snapchat is tainted by illegal material that promotes and facilitates the
13 continued sexual exploitation of minors. Snap receives value in the form of increased user
14 activity for the dissemination of CSAM on its product.

15 352. Furthermore, Snapchat’s disappearing-content design, while appealing to minors,
16 makes it more difficult for parents to monitor their children’s social-media activity. This feature
17 also contributes to a sense of impunity for many users, encouraging and fomenting exploitation
18 and predatory behavior, which has been observed in multiple empirical studies.²⁷⁸ According to
19 these studies, Snapchat users believe their conduct is hidden and accordingly feel empowered to
20 engage in criminal behavior through the product without fear of getting caught.

21 353. These feelings are promoted by design. Snap intends for the product’s
22 disappearing messaging to entice users to share highly personal photos and information that
23 many users would otherwise feel uncomfortable sharing on “higher-stake” apps.²⁷⁹ In short, this
24

25 ²⁷⁸ *Snapchat by the Numbers: Stats, Demographics & Fun Facts*, Omnicore (Mar. 2, 2022),
26 <https://www.omnicoreagency.com/snapchat-statistics/>.

27 ²⁷⁹ See Evelyn Lopez et al., *The Gratifications of Ephemeral Marketing Content, the Use of*
28 *Snapchat by the Millennial Generation and Their Impact on Purchase Motivation*, Global Bus.
Rev. (2021), <https://journals.sagepub.com/doi/pdf/10.1177/09721509211005676>.

1 design choice encourages and allows minors to share harmful, illegal, and sexually explicit
2 images while providing predators with a vehicle to recruit victims. Studies have also found that
3 the “close ties” generated between teenagers on Snapchat foster the conditions for grooming and
4 other predatory behavior.

5 354. As a result, Snapchat is one of the go-to products for sexual predators.²⁸⁰

6 355. In 2014, Snap introduced “Snapcash,” a peer-to-peer mobile payment service.
7 Snapcash provided a way for users to pay for private content with little to no oversight.²⁸¹
8 Snapcash enabled CSAM and other sexual exploitation, as users were paid with Snapcash to
9 send, receive, create, publish, save, accept, or otherwise participate in CSAM. It also enabled
10 predators to extort cash from adolescent users by threatening to disseminate CSAM to other
11 users.

12 356. Snapcash was abruptly removed from Snapchat in 2018 as users were sending
13 sexually explicit photos and using Snapcash for payment.²⁸²

14 357. Snapchat also allows users to voice or video call one another in the app.²⁸³ This
15 feature is dangerous when paired with the many others that permit easy access to minors by
16 predators, such as Quick Add and Snap Map. It allows predators to call and video chat with
17 minors in private, with virtually no evidence of what was exchanged. Predators use this function
18 to identify children willing to add and speak with a stranger, and then prey on the child’s
19 vulnerabilities.

21
22 ²⁸⁰ See, e.g., Rebecca Woods, *What Are The Dangers Of Snapchat To Avoid?*, PhoneSpector
(June 16, 2021), <https://phonespector.com/blog/what-are-the-dangers-of-snapchat-to-avoid/>.

23 ²⁸¹ Kurt Wagner, *Snapchat to Let You Send Money to Friends, Thanks to Square*, Vox,
24 <https://www.vox.com/2014/11/17/11632930/snapchat-to-let-you-send-money-to-friends-thanks-to-square>.

25 ²⁸² Christian Hargrave, *Snapcash Goes Away After Excessive Feature Misuse*. App Developer
Magazine (July 25, 2018), <https://appdevelopermagazine.com/snapcash-goes-away-after-excessive-feature-misuse/>.

26 ²⁸³ Snapchat Support, *How to Start a Video Chat on Snapchat*, [https://support.snapchat.com/en-GB/a/video-
27 chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat](https://support.snapchat.com/en-GB/a/video-chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat).

1 358. Collectively, these product features promulgate communication and conduct with
2 a false sense of intimacy between users and encourage predators to use Snapchat to target
3 children for grooming, sexual exploitation, sextortion, and CSAM.

4 359. In November 2019, a bipartisan group of Senators sent a letter to leading tech
5 companies, including Snapchat. The letter sought answers about the online sexual grooming of
6 children and CSAM detection technologies.²⁸⁴ The following year, ParentsTogether, a national
7 parent group, delivered a petition from 100,000 parents to Snap demanding that the company do
8 more to “protect children from sexual abuse and exploitation” on Snapchat.²⁸⁵ The petition listed
9 numerous examples of widespread online sexual grooming of children, including: a high school
10 coach in New Mexico who used Snapchat to extort sexual videos from several girls as young as
11 fourteen; a Cleveland man who posed as a therapist and blackmailed a thirteen-year-old girl into
12 sending him sexual videos and photos; and a Virginia man who was arrested for running a
13 sextortion ring on Snapchat, coercing children into sending sexually explicit material.²⁸⁶

14 360. In response, Snap announced that by Fall of 2020, it would deploy technology in
15 addition to Microsoft’s PhotoDNA to help stop the spread of CSAM through its product.

16 361. By failing to utilize these technologies until late 2020, Snap harmed adolescent
17 users as its product contributed to child exploitation, sextortion, and the spread of CSAM.

18 362. In addition, while Snapchat allows users to report harmful images or videos, they
19 cannot specifically report CSAM that is sent to a user via direct messaging, including from
20 another user’s camera roll.

21 363. Snapchat’s disappearing messages cannot be reported at all.

23 ²⁸⁴ *Letter to Sundar Pichai and 36 other Tech Companies by Senate Committee* (Nov. 18, 2019),
24 [https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-](https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-%20CSAM.pdf)
25 [%20CSAM.pdf](https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-%20CSAM.pdf).

26 ²⁸⁵ *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, [https://parents-](https://parents-together.org/snapchat-petition)
27 [together.org/snapchat-petition](https://parents-together.org/snapchat-petition).

28 ²⁸⁶ *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, [https://parents-](https://parents-together.org/snapchat-petition)
[together.org/snapchat-petition](https://parents-together.org/snapchat-petition).

1 364. While Snap states that it is using “technology to identify *known* illegal images and
2 videos of CSAM and report them to NCMEC,” it does not address how Snapchat’s design
3 contributes to the ongoing proliferation of CSAM materials and the sexual exploitation of its
4 adolescent users.

5 365. Utilizing the data and information it collects about Snapchat’s users, Snap could
6 detect, report, and take actions to prevent instances of sexual grooming, sextortion, and CSAM
7 distribution.

8 366. Despite receiving numerous reports regarding how its product’s features
9 contribute to child exploitation, Snap has elected to keep many of these features in place.²⁸⁷ It
10 has done so because removing them would significantly diminish Snapchat’s popularity and
11 negatively impact profits.

12 367. Notwithstanding these glaring flaws, Snap advertises and promotes its product as
13 safe and fun. Snap’s Vice President of Global Public Policy, Jennifer Stout, stated in written
14 testimony to a Senate Subcommittee that Snap takes “into account the unique sensitivities and
15 considerations of minors when we design products”²⁸⁸ when, in fact, Snap intentionally designed
16 its product to promote compulsive and excessive use and help underage users conceal
17 information from their parents. Stout claimed that Snap makes it harder for strangers to find
18 minors when, in fact, Snapchat’s “Quick Add” feature is responsible for introducing minors to
19 complete strangers, and its “Snap Map” feature has enabled threats, exploitation, and location of
20 minors by complete strangers. Likewise, Snap’s Head of Global Platform Safety, Jacqueline
21 Beauchere, represented to the public that “Snapchat is designed for communications between and
22

23
24 ²⁸⁷ See, e.g., Zak Doffman, *Snapchat Has Become A ‘Haven For Child Abuse’ With its ‘Self-
25 Destructing Messages’*, Forbes (May 26, 2019),
<https://www.forbes.com/sites/zakdoffman/2019/05/26/snapchats-self-destructing-messages-have-created-a-haven-for-child-abuse/?sh=411b8e1d399a>.

26 ²⁸⁸ Snap’s Senate Congressional Testimony - Our Approach to Safety, Privacy and Wellbeing,
27 <https://values.snap.com/news/senate-congressional-testimony-our-approach-to-safety-privacy-and-wellbeing>.
28

1 among real friends; it doesn't facilitate connections with unfamiliar people like some social
2 media platforms."²⁸⁹ But again, this is not true and/or historically was not the case.

3 368. In addition, Snap knows or should have known, that its products facilitate and
4 encourage the production, possession, distribution, receipt, transportation, and dissemination of
5 millions of materials that exploit children and violate child pornography laws. Snap further
6 knows, or should have known, that its product facilitates the production, possession, distribution,
7 receipt, transportation, and dissemination of materials that depict obscene visual representations
8 of the sexual abuse of children.

9 7. **Snap failed to adequately warn about the harms its product causes or**
10 **provide instructions regarding safe use.**

11 369. Since Snap's inception, it has failed to warn adolescent users about its products'
12 physical and mental health risks. These risks include, but are not limited to, addiction,
13 compulsive and excessive use, sexual exploitation by adult users, dissociative behavior, social
14 isolation, and an array of mental health disorders like body dysmorphia, anxiety, depression, and
15 insomnia.

16 370. Snap targets adolescent users via advertising and marketing materials distributed
17 via digital and traditional media, including expensive advertisements placed during high-profile
18 sporting events. Snap fails to warn the targets of these ads—often minors—about the physical
19 and mental risks associated with using Snapchat.

20 371. Snap further fails to warn adolescent users during the product registration process.
21 At account setup, Snap's product contains no warning labels, banners, or conspicuous messaging
22 to adequately inform adolescent users of the known risks and potential physical and mental
23 harms associated with usage of its product. Instead, Snap allows adolescent users to easily create
24 an account (or multiple accounts) and fully access the product.

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26 _____
27 ²⁸⁹ *Snap's Meet Our Head of Global Platform Safety*, <https://values.snap.com/news/meet-our-head-of-global-platform-safety>.
28

1 372. Snap’s lack of adequate warnings continues after an adolescent has the Snapchat
2 product. Snap does not adequately inform adolescent users that their data will be tracked, used to
3 help build a unique algorithmic profile, and potentially sold to Snap’s advertising clients, who
4 will in turn use the data to target and profile the user.

5 373. Alarming, Snap also does not warn adolescent users before facilitating adult
6 connections and interactions that adult predators use its product. It also fails to instruct
7 adolescent users on ways to avoid unknown adults on Snap.

8 374. Snap also fails to warn adolescent users who exhibit problematic signs of
9 addiction or are habitually and compulsively accessing the app. Instead, Snap utilizes push
10 notifications to encourage engagement with Snapchat.

11 375. In addition, despite proactively providing adolescent users with countless filtering
12 and editing tools, Snap does not warn its adolescent users regarding the mental health harms
13 associated with those heavily filtered images.

14 **E. BYTEDANCE MARKETS AND DESIGNS ITS TIKTOK TO ADDICT**
15 **YOUNG USERS, SUBSTANTIALLY CONTRIBUTING TO THE**
16 **MENTAL HEALTH CRISIS**

17 376. Since its launch, TikTok has grown exponentially. In late 2021, its owner and
18 creator ByteDance publicly stated that TikTok had 1 billion active global users, up from 55
19 million in early 2018 and 700 million in mid-2020.²⁹⁰

20 377. A large swath of TikTok’s user base is comprised of American children. In July
21 2020, TikTok reported that more than one-third of its 49 million daily users in the United States
22 were 14 or younger.²⁹¹ More recently, a 2022 Pew Research Center survey reported that 67% of
23 American teenagers (age 13-17) use TikTok, with most American teenagers (58%) using the
24 product daily. Among teenage TikTok users, a quarter say they use the site or app almost

25 ²⁹⁰ Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27,
26 2021), <https://www.cnn.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>.

27 ²⁹¹ Raymond Zhong & Sheera Frenkel, *A Third of TikTok’s U.S. Users May Be 14 or Under,*
28 *Raising Safety Questions*, N.Y. Times (Aug. 14, 2020),
<https://www.nytimes.com/2020/08/14/technology/tiktok-underage-users-ftc.html>.

1 constantly.²⁹² In another recent report, more than 13% of young users declared they “wouldn’t
2 want to live without” TikTok.²⁹³

3 378. TikTok’s capture of the American youth market is no accident, but instead the
4 result of a carefully executed campaign. Early on, Alex Zhu, one of TikTok’s creators,
5 recognized that “[t]eenagers in the U.S. [were] a golden audience” for this emerging social media
6 product.²⁹⁴ To cash in on this gold, ByteDance implemented a series of product features designed
7 to attract and addict young users. As Zhu explained in 2019, “[e]ven if you have tens of millions
8 of users, you have to keep them always engaged.”²⁹⁵ This engagement has come at the cost of
9 young users’ health.

10 1. Background and overview of TikTok.

11 379. In 2012, Beijing-based technologist Zhang Yiming paired up with an American
12 venture capitalist, Matt Huang, to launch ByteDance and its first product Jinri Toutiao (“Today’s
13 Headlines”), which utilized A.I. to gather and present world news to users on a single feed.

14 380. Following the success of its first product, ByteDance created Douyin in 2016, a
15 music-based app loosely modeled on the popular app Musical.ly. Musical.ly was a critical hit in
16 the U.S. as American teens gravitated to the platform, which allowed users, including minor
17 users, to create 15-second videos of themselves lip-syncing, dancing, or goofing around to
18 popular songs and movie scenes, and then post them to a scrollable feed for other users to see.

21 ²⁹² Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

22 ²⁹³ Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens, 2021* at 31,
23 Common Sense Media (2022),
24 [www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-
final-web_0.pdf](http://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

25 ²⁹⁴ Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y.
26 Times (Aug. 9, 2016), [https://www.nytimes.com/2016/08/10/technology/china-homegrown-
internet-companies-rest-of-the-world.html](https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html).

27 ²⁹⁵ Biz Carson, *How A Failed Education Startup Turned into Musical.ly, The Most Popular App
28 You’ve Probably Never Heard Of*, Bus. Insider (May 28, 2016),
<https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

1 381. In 2017, ByteDance launched TikTok, a version of Douyin for the non-Chinese
2 market, and acquired Musical.ly, which by then boasted a user base of almost 60 million monthly
3 active users, for \$1 billion. Nine months later, ByteDance merged its newly acquired app into its
4 existing product, and a global version of TikTok was born.

5 382. Douyin is a version of TikTok that is exclusively for Chinese users. ByteDance’s
6 design of Douyin is profoundly different than TikTok. Douyin serves its Chinese users
7 educational and patriotic content and limits their use to just 40 minutes per day.²⁹⁶ TikTok, in
8 sharp contrast, has no usage limits and is designed to encourage addictive and compulsive use.
9 Far from promoting educational content, TikTok’s algorithm instead actively sends its young
10 American users down a harmful rabbit hole of artificially filtered “ideal” body images and
11 dangerous viral challenges.

12 **2. ByteDance intentionally encourages youth to use its product and then**
13 **leverages that use to increase revenue.**

14 383. ByteDance has designed and aggressively marketed TikTok, the harmful and
15 addictive version of Douyin, to attract young Americans.

16 384. Like the other Defendants’ products, TikTok depends on advertising revenue,
17 which has boomed. TikTok was projected to receive \$11 billion in advertising revenue in 2022,
18 over half of which is expected to come from the United States.²⁹⁷

19 385. The initial iteration of TikTok allowed users to lip sync pop music by celebrities
20 who appealed primarily to teens and tweens (e.g., Selena Gomez and Ariana Grande). It labeled
21 folders with names attractive to youth (e.g., “Disney” and “school”); and included in those
22 folders songs such as “Can You Feel the Love Tonight” from the movie “The Lion King,”

23 ²⁹⁶ Sapna Maheshwari, *Young TikTok Users Quickly Encounter Problematic Posts, Researchers*
24 *Say*, N.Y. Times (Dec. 14, 2022), <https://www.nytimes.com/2022/12/14/business/tiktok-safety-teens-eating-disorders-self-harm.html>.

25 ²⁹⁷ Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27,
26 2021), <https://www.cnn.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>; Bhanvi
27 Staija, *TikTok’s ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11,
28 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

1 “You’ve Got a Friend in Me” from the movie “Toy Story,” and other renditions covering school-
2 related subjects or school-themed television shows and movies.²⁹⁸

3 386. ByteDance also specifically and intentionally excluded videos that would not
4 appeal to young Americans, instructing TikTok moderators that videos of “senior people with
5 too many wrinkles” should not be permitted on users’ “For You” pages because such content
6 was “much less attractive [and] not worth[] . . . recommend[ing].”²⁹⁹

7 387. Even TikTok’s sign-up process demonstrates that young users are what
8 ByteDance values most. In 2016, the birthdate for those signing up for the app defaulted to the
9 year 2000 (i.e., 16 years old).³⁰⁰

10 **3. ByteDance intentionally designed product features to addict children**
11 **and adolescents.**

12 388. TikTok’s growth among young Americans has been further enabled by its
13 defective age verification and parental control procedures, which allow children under 13
14 unfettered access to the app.

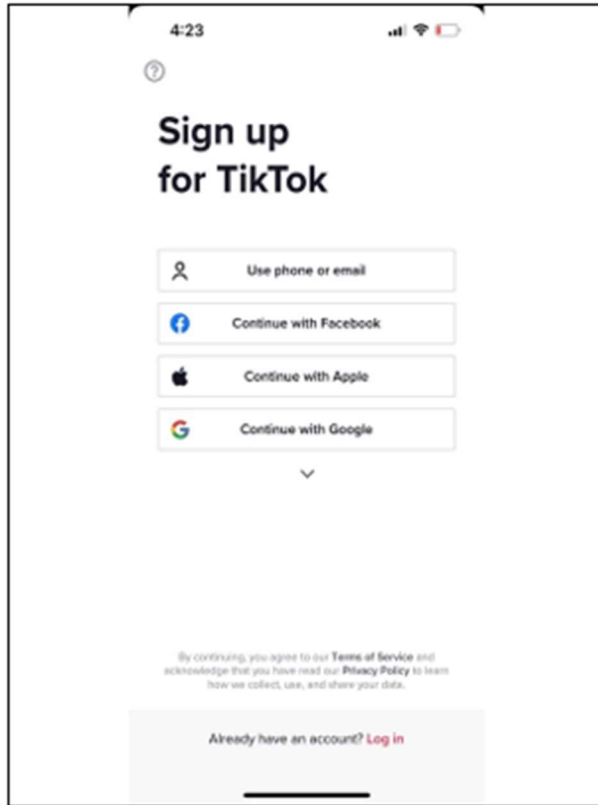
15 **a. TikTok’s age-verification measures are defective.**

16 389. When a user first opens TikTok, they are prompted to “Login in to TikTok” or
17 “Sign up” for an account using a phone number or email address. TikTok then asks, “When’s
18 your birthday?”

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23 ²⁹⁸ Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief (“Musical.ly
Complaint”) at p. 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D.
24 Cal. Feb. 27, 2019) Dkt. # 1.

25 ²⁹⁹ Sam Biddle et al., *Invisible Censorship: TikTok Told Moderators to Suppress Posts by*
“Ugly” People and the Poor to Attract New Users, Intercept (Mar. 15, 2020),
26 <https://theintercept.com/2020/03/16/tiktok-app-moderatorsusers-discrimination/>.

27 ³⁰⁰ Melia Robinson, *How to Use Musical.ly, The App With 150 million Users That Teens Are*
Obsessed With, Bus. Insider (Dec. 7, 2016), [https://www.businessinsider.com/how-to-use-](https://www.businessinsider.com/how-to-use-musically-app-2016-12)
28 [musically-app-2016-12](https://www.businessinsider.com/how-to-use-musically-app-2016-12).



390. ByteDance does not verify the age that TikTok users report. Nor does it use any method to verify that users who acknowledge they are minors have the consent of their parents or legal guardians to use the product. In fact, at least as of 2020, TikTok still had not developed a company position on age verification.

391. ByteDance has designed TikTok so users can circumvent TikTok’s age restrictions by using TikTok without creating an account. TikTok allows users, no matter what age, to “browse as [a] guest,” and watch TikTok’s “For You” page while TikTok’s algorithm collects data about that user and their viewing behavior.³⁰¹

392. ByteDance knows that many U.S. TikTok users under the age of 13 fail to report their birth dates accurately.³⁰²

³⁰¹ *Browse as Guest*, TikTok Support, <https://support.tiktok.com/en/log-in-troubleshoot/log-in/browse-as-guest>.

³⁰² Jon Russell, *Musical.ly Defends its Handling of Young Users, As it Races Past 40M MAUs*, TechCrunch (Dec. 6, 2016), <https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/>.

1 393. In 2019, the FTC acted on this admission and alleged that ByteDance failed to
2 comply with COPPA.³⁰³

3 394. TikTok settled the FTC claims, agreeing to a then-record civil COPPA penalty
4 and several forms of injunctive relief intended to protect children who use the product.³⁰⁴

5 395. To comply with the terms of that settlement, ByteDance created “TikTok for
6 Younger Users,” a “limited app experience” for users under the age of 13.³⁰⁵ “TikTok for
7 Younger Users” does not permit users to “share their videos, comment on others’ videos,
8 message with users, or maintain a profile or followers.”³⁰⁶ However, users can still “experience
9 what TikTok is at its core” by recording and watching videos on TikTok. For that reason, experts
10 state the app is “designed to fuel [kids’] interest in the grown-up version.”³⁰⁷

11 396. Moreover, users under 13 can easily delete their age-restricted accounts and sign
12 up for an over-13 account on the same mobile device—without any restriction or verification—
13 using a fake birthdate.

14 397. The absence of effective age verification measures also means that adult users
15 claim to be children—with obvious dangers to the children on ByteDance’s product.

16 **b. TikTok’s parental controls are defective.**

17 398. Following the FTC settlement, ByteDance created a “Family Pairing” feature on
18 TikTok. The supposed purpose of that feature was to allow parents to link their accounts to their
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21 ³⁰³ See Musical.ly Complaint, at p. 8, ¶¶ 26–27.

22 ³⁰⁴ Natasha Singer, *TikTok Broke Privacy Promises, Children’s Groups Say*, NY Times (May 14,
23 2020), <https://www.nytimes.com/2020/05/14/technology/tiktok-kids-privacy.html#:~:text=TikTok%2C%20the%20popular%20app%20for%20making%20and%20sharing,20%20children%E2%80%99s%20and%20consumer%20groups%20said%20on%20Thursday>.

24 ³⁰⁵ *TikTok for Younger Users*, TikTok (Dec. 13, 2019), <https://newsroom.tiktok.com/en-us/tiktok-for-younger-users>.

25 ³⁰⁶ Dami Lee, *TikTok Stops Young Users from Uploading Videos after FTC Settlement*, Verge
26 (Feb. 27, 2019), <https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrensprivacy-law>.

27 ³⁰⁷ Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022),
28 <https://ifstudies.org/blog/istiktok-dangerous-for-teens>.

1 children’s accounts and enforce certain controls (such as screen time limits and restriction of
2 “content that may not be appropriate for all audiences”).³⁰⁸

3 399. “Family Pairing” also is supposed to allow parents to prevent their children from
4 direct messaging other TikTok users. But ByteDance has designed TikTok’s “Family Pairing”
5 feature so that it is not mandatory for minor users. And to use it, a parent or guardian is forced to
6 create their own TikTok account to pair it with their child’s account. Further, the “Family
7 Pairing” feature is available only on the TikTok app. It provides no protection when a child
8 accesses TikTok through a web browser. Because this feature requires parents to know the name
9 of their child’s account to pair it, youth can easily evade the protections of the “Family Pairing”
10 feature by creating anonymous accounts, again without parental approval or knowledge.

11 400. ByteDance further stymies parents’ ability to supervise minors’ use of TikTok by
12 permitting minor users to block their parent’s profile, post ephemeral videos called “Stories” that
13 disappear after 24 hours, and post those stories to “Friends Only.”

14 401. ByteDance could, but does not, adopt safety features that notify parents when
15 minors are engaging excessively with the product and are using it during sleeping hours.

16 402. Until January 13, 2021, ByteDance interfered with parental supervision and
17 endangered children by defaulting all accounts, including those registered to children as young as
18 13, to “public.” That allowed strangers to contact minor users regardless of age or location.
19 ByteDance also intentionally and actively promoted these types of connections by suggesting
20 accounts to follow through the “Find Friends” or “People You May Know” features.

21 403. Today, for users 16 and over, ByteDance still sets the default privacy setting for
22 all registered accounts to “public,” meaning that anyone can view a user’s profile, on or off
23 TikTok, request the user as a friend, or engage with the user’s content.³⁰⁹

24
25 ³⁰⁸ *TikTok Introduces Family Pairing*, TikTok Newsroom (April 15, 2020)
<https://newsroom.tiktok.com/en-us/tiktok-introduces-family-pairing>.

26 ³⁰⁹ See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer*
27 *Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July
28 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999>.

1 c. ByteDance intentionally designed TikTok’s defective features
2 and algorithms to maximize engagement using automatic
3 content, time-limited experiences, intermittent variable
4 rewards, reciprocity, and ephemeral content.

5 404. Like each of the other Defendants, ByteDance has designed and coded TikTok
6 with features that foster addictive and compulsive use by youth, leading to a cascade of
7 additional mental and physical injuries.

8 405. One of TikTok’s defining features is its “For You” page (or “FYP”). According to
9 ByteDance, it is “central to the TikTok experience and where most of our users spend their
10 time.”³¹⁰

11 406. TikTok’s FYP uses ByteDance’s powerful machine-learning algorithms to select
12 content to feed users to maximize their engagement and thereby serve ByteDance’s interests—as
13 opposed to simply responding to searches by users. As one industry commentator explained,
14 TikTok uses “a machine-learning system that analyzes each video and tracks user behavior so
15 that it can serve up a continually refined, never-ending stream of TikToks optimized to hold
16 [users’] attention.”³¹¹ As another commentator put it, “you don’t tell TikTok what you want to
17 see. It tells you.”³¹²

18 407. Zhu has remarked that, “[e]ven if you have tens of millions of users, you have to
19 keep them always engaged.”³¹³ Thus, according to Zhu, TikTok’s algorithms are “focused
20 primarily on increasing the engagement of existing users.”³¹⁴

21 ³¹⁰ *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020),
22 <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you>.

23 ³¹¹ Jia Tolentino, *How TikTok Holds Our Attention*, New Yorker (Sept. 30, 2019),
24 <https://www.newyorker.com/magazine/2019/09/30/how-tiktok-holds-our-attention>.

25 ³¹² Drew Harwell, *How TikTok Ate the Internet*, Wash. Post. (Oct. 14, 2022),
26 <https://www.theday.com/business/20221015/how-tiktok-ate-the-internet/>.

27 ³¹³ Biz Carson, *How a Failed Education Startup Turned Musical.ly, the Most Popular App*
28 *You’ve Probably Never Heard Of*, Business Insider (May 28, 2016),
29 <https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

30 ³¹⁴ Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween*
31 *and Teen Markets, Inc.* (June 2, 2016), [https://www.inc.com/joseph-steinberg/meet-musically-](https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quicklycapturing-the-tween-and-teen-m.html)
32 [the-video-social-network-quicklycapturing-the-tween-and-teen-m.html](https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quicklycapturing-the-tween-and-teen-m.html).

1 408. An internal document titled “TikTok Algo 101,” which TikTok has confirmed is
2 authentic, “explains frankly that in the pursuit of the company’s ‘ultimate goal’ of adding daily
3 active users, it has chosen to optimize for two closely related metrics in the stream of videos it
4 serves: ‘retention’—that is, whether a user comes back—and ‘time spent.’”³¹⁵

5 409. “This system means that watch time is key,” explained Guillaume Chaslot, the
6 founder of Algo Transparency.³¹⁶ Chaslot noted that “rather than giving [people] what they really
7 want,” TikTok’s “algorithm tries to get people addicted[.]”³¹⁷

8 410. To fulfill this goal, the TikTok algorithm responds to a user’s time spent watching
9 and engaging with a video by feeding them similar content.³¹⁸ As TikTok describes it, the
10 algorithms populate each user’s FYP feed by “ranking videos based on a combination of factors”
11 that include, among others, any interests expressed when a user registers a new account, videos a
12 user likes, accounts they follow, hashtags, captions, sounds in a video they watch, certain device
13 settings, such as their language preferences and where they are located, and finally the likelihood
14 of the user’s interest.³¹⁹

15 411. ByteDance has designed TikTok’s algorithm so that certain factors, such as time
16 spent watching a video, are more important to the algorithm than others. For example, TikTok
17 explains that, “whether a user finishes watching a longer video from beginning to end, would
18

19
20 ³¹⁵ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

21 ³¹⁶ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

22 ³¹⁷ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

23 ³¹⁸ Kaitlyn Tiffany, *I’m Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021),
24 <https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

25 ³¹⁹ *Investigation: How TikTok’s Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul.
26 21, 2021), <https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796>; see also *How TikTok recommends videos #ForYou | TikTok Newsroom*, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

1 receive greater weight than . . . whether the video’s viewer and creator are both in the same
2 country.”³²⁰

3 412. TikTok’s algorithms are designed to begin working the minute a user opens the
4 app. The FYP shows the user a single, full-screen stream of videos, then records how the user
5 reacts. “A second of viewing or hesitation indicates interest; a swipe suggests a desire for
6 something else.”³²¹ With each data point collected, TikTok’s algorithm winnows a mass of
7 content to a single feed, continually refined to keep users engaging often and at length.

8 413. This algorithmic encouragement of continuous scrolling and interaction makes it
9 hard for users to disengage from the app. A recent ByteDance-funded study, which imaged the
10 brains of TikTok and other social media product users, found that those using TikTok engaged
11 with the product about 10 times a minute, twice as often as with peer apps.³²²

12 414. ByteDance leverages users’ inability to disengage as a benefit to attract
13 advertisers, rather than taking steps to address the addictive nature of its product. A recent
14 TikTok marketing document observed that “the TikTok audience is fully leaned in.”³²³
15 Marketing research commissioned by TikTok found that compared to other social media sites,
16 TikTok users evidenced a higher frequency of rate per minute. TikTok boasted, “[o]ur algorithm
17
18
19

20 ³²⁰ *Investigation: How TikTok’s Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul.
21 21, 2021), [https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-
22 algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-
4827-8528-2BD6612E3796](https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796); see also *How TikTok recommends videos #ForYou | TikTok
23 Newsroom*, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

24 ³²¹ *Investigation: How TikTok’s Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul.
25 21, 2021), [https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-
26 algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-
4827-8528-2BD6612E3796](https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796); see also *How TikTok recommends videos #ForYou | TikTok
27 Newsroom*, <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

28 ³²² *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok,
<https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

³²³ *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement*, TikTok,
<https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

1 and shorter video formats create continuous cycles of engagement, making TikTok the leading
2 platform for Information Density.”³²⁴

3 415. ByteDance also creates images and GIFs for users to incorporate into TikTok
4 videos to keep users returning to the product. And ByteDance has acquired publishing rights to
5 thousands of hours of music and video, which it provides its users to attach to the videos and
6 pictures they post on TikTok.

7 416. TikTok’s powerful machine-learning algorithms dictate the content of each user’s
8 FYP. An estimated 90-95% of the content viewed on TikTok comes from its algorithms (as
9 opposed to user selection), the highest among Defendants’ products.³²⁵

10 417. The algorithm encourages use of the product, regardless of whether that use is
11 enjoyable or healthy. From TikTok’s perspective, it doesn’t matter whether you’re engaging with
12 a video because you’re horrified or angry or upset—the engagement itself is the end goal.

13 418. As the algorithm continues to refine what users see, they are “more likely to
14 encounter harmful content.”³²⁶ Indeed, TikTok’s quest to monopolize user attention often forces
15 users down “rabbit holes” of harmful content. Users end up in these rabbit holes, and become
16 trapped in them, because TikTok has optimized its algorithm’s design for retention and time
17 spent on the app.³²⁷ TikTok wants to keep users coming back as often as possible for as long as
18 possible.

19 419. Once users are in a rabbit hole, it is extremely difficult to climb out. One user was
20 shown a few anti-vaccination conspiracy theory videos on his FYP and commented on them in
21

22 ³²⁴ *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement, TikTok*,
23 <https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf>.

24 ³²⁵ *Investigation: How TikTok’s Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul.
25 21, 2021), [https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-
26 algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796](https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796).

27 ³²⁶ *Inside TikTok’s Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
28 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

³²⁷ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

1 an attempt to refute the videos' claims. His feed was quickly overtaken with similar videos, and
2 it took him months of intentional interaction with the app to purge this content from his FYP.³²⁸
3 In general, escaping a rabbit hole requires a user to repeatedly and actively strategize ways to
4 counter the algorithm, pitting individual users' David against TikTok's machine-learning
5 Goliath.

6 420. The Wall Street Journal documented the pernicious operation of ByteDance's
7 algorithms, as shown by a recent experiment. The experimenters used bots, each programmed
8 with various interests such as sports, forestry, dance, astrology, and animals. They did not
9 disclose these interests upon registration with TikTok. Instead, TikTok's algorithm quickly
10 learned the assigned interests from the bots' behavior—that is, “by rewatching or pausing on
11 videos” related to the bot's programmed interest.³²⁹

12 421. One bot watched 224 videos in 26 minutes, lingering over videos with hashtags
13 for “depression” or “sad.” The algorithm quickly refined its output. Afterward, 93% of the
14 videos TikTok showed that bot were about depression or sadness. One post implored the bot to:
15 “Just go. Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor
16 and leave.”³³⁰

17 422. ByteDance's choices about how to design and structure its app—including
18 choosing not to implement effective age gating and parental controls, in addition to choosing to
19 design algorithms to maximize engagement through pushing extreme and outrageous content—
20 go far beyond benignly organizing the content of others. Instead, they create an environment and
21 experience suited to ByteDance's goal of maximizing ad revenues—an environment and
22 experience that is unreasonably dangerous to the children and teens ByteDance targets.

23
24 ³²⁸ Kaitlyn Tiffany, *I'm Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021),
<https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/>.

25 ³²⁹ *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
26 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

27 ³³⁰ *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),
<https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

1 423. In a follow-up experiment by the Wall Street Journal, bots were registered as
2 users between 13 and 15 years-old. One of those bots, programmed to pause on videos
3 referencing drugs, lingered briefly on “a video of a young woman walking through the woods
4 with a caption” referring to “stoner girls.” The next day, the algorithm showed the bot a video
5 about a “marijuana-themed cake.” Then, the “majority of the next thousand videos” that
6 TikTok’s algorithm produced “tout[ed] drugs and drug use,” including marijuana, psychedelics,
7 and prescription drugs.³³¹

8 424. The algorithm immersed another bot—registered as a 13-year-old boy—into a
9 rabbit hole of videos related to bondage and sex, including videos explaining, among other
10 things, “how to tie knots for sex, recover from violent sex acts and discussing fantasies about
11 rape.”³³² The bot simply searched for the term “onlyfans”—a site known for hosting adult
12 entertainment—and watched a handful of videos in the results before returning to the FYP.³³³
13 The algorithm subsequently bombarded the bot with videos about sex and, as the bot lingered on
14 those videos, the bot’s feed became almost entirely dominated by sex-related videos. At one
15 point, “more than 90 percent of [the] account’s video feed was about bondage and sex.”³³⁴

16 425. The Wall Street Journal concluded “that through its powerful algorithms, TikTok
17 can quickly drive minors—among the biggest users of the app—into endless spools of content
18 about sex and drugs.”³³⁵ In another follow-up experiment, the Wall Street Journal found that
19 once TikTok’s algorithm determined that the bots would rewatch videos related to weight loss, it
20

21
22 ³³¹ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

23 ³³² Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

24 ³³³ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

25 ³³⁴ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

26 ³³⁵ Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
2021), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944>.

1 “speedily began serving more, until weight-loss and fitness content made up more than half their
2 feeds—even if the bot never sought it out.”³³⁶

3 426. Indeed, TikTok’s algorithm recommended over 32,000 weight-loss videos over a
4 two-month period, “many promoting fasting, offering tips for quickly burning belly fat and
5 pushing weight-loss detox programs and participation in extreme weight-loss competitions.”³³⁷

6 427. Alyssa Moukheiber, a treatment center dietitian, explained that TikTok’s
7 algorithm can push children into unhealthy behaviors or trigger a relapse of disordered eating.³³⁸
8 Indeed, several teenage girls interviewed by the Wall Street Journal reported developing eating
9 disorders or relapsing after being influenced by extreme diet videos TikTok promoted to them.³³⁹

10 428. Their experiences are not unique. Katie Bell, a co-founder of the Healthy Teen
11 Project, explained that “the majority of her 17 teenage residential patients told her TikTok played
12 a role in their eating disorders.”³⁴⁰

13 429. Others, like Stephanie Zerwas, an Associate Professor of Psychiatry at the
14 University of North Carolina at Chapel Hill, could not even recount how many of her young
15 patients told her that “I’ve started falling down this rabbit hole, or I got really into this or that
16
17
18

19 ³³⁶ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
20 Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-
inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848).

21 ³³⁷ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
22 Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-
inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848).

23 ³³⁸ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
24 Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-
inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848).

25 ³³⁹ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
26 Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-
inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848).

27 ³⁴⁰ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-
28 Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-
inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848).

1 influencer on TikTok, and then it started to feel like eating-disorder behavior was normal, that
2 everybody was doing that.”³⁴¹

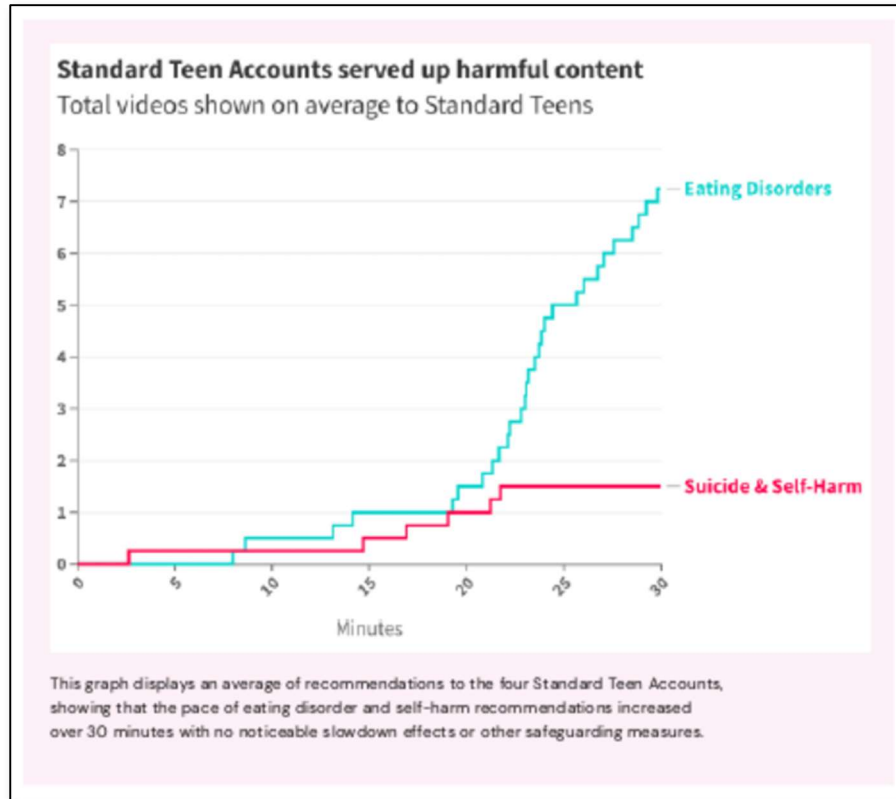
3 430. In December 2022, the Center for Countering Digital Hate (“CCDH”) conducted
4 a similar study, creating TikTok accounts with a registered age of 13 in the United States, United
5 Kingdom, Canada, and Australia.³⁴² For the first 30 minutes on the app, the accounts paused
6 briefly on videos about body image and mental health and liked them. “Where researchers
7 identified a recommended video matching one of the below categories, they viewed the video for
8 10 seconds and liked it. For all other videos, researchers would immediately scroll the For You
9 feed to view the next video recommended by TikTok.”³⁴³ TikTok’s algorithm seized on this
10 information and within minutes began recommending content about eating disorders and self-
11 harm.

12 431. The CCDH report further illustrated TikTok’s algorithms at work, noting that, for
13 an account that liked content about body image and mental health, the algorithm recommended
14 similar content every 39 seconds. As the 30 minutes went on, TikTok recommended more videos
15 related to eating disorders, suicide, and self-harm, as the graph below shows.

23 ³⁴¹ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-*
24 *Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848)
inundates-teens-with-eating-disorder-videos-11639754848.

25 ³⁴² *Deadly by Design*, Center for Countering Digital Hate (Dec. 2022),
26 https://counterhate.com/wp-content/uploads/2022/12/CCDH-Deadly-by-Design_120922.pdf.

27 ³⁴³ Tawnell D. Hobbs, *‘The Corpse Bride Diet’: How TikTok Inundates Teens With Eating-*
28 *Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848)
inundates-teens-with-eating-disorder-videos-11639754848.



15 432. TikTok’s rabbit holes are particularly problematic for young people, who lack the necessary impulse control to stop watching. The more the user engages by viewing or hesitating on a particular piece of content, the more TikTok’s algorithms learn about the user. ByteDance uses this feature to exploit the vulnerabilities of children and teenagers, and addict them to its product.

20 433. Indeed, ByteDance admits that its recommendation algorithm creates a “risk of presenting an increasingly homogeneous stream of videos.”³⁴⁴ As the above-referenced studies and experiments demonstrate, that homogeneous stream often includes harmful content, including posts about depression, self-harm, drugs, and extreme diets.

24 434. ByteDance uses a series of interrelated design features that exploit known mental processes to induce TikTok’s users to use the product more frequently, for more extended

26
27 ³⁴⁴ *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020),
28 <https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you>.

1 periods, and with more intensity (i.e., providing more comments and likes). ByteDance knows or
2 should have known that children, whose brains are still developing, are particularly susceptible
3 to these addictive features.

4 435. TikTok is defective in part because ByteDance designed the app so users cannot
5 disable the auto-play function on the FYP.³⁴⁵ As noted above, when a user opens the TikTok app
6 or visits the TikTok website, the product immediately begins playing a video on the user's FYP.
7 The user may request more videos with a simple upward swipe, and the product will deliver a
8 seemingly endless content stream. If a user does not proceed from a video, it continues to play on
9 an endless loop. The ability to scroll continuously induces a "flow-state" and distorts users'
10 sense of time.

11 436. The TikTok app interface is designed with only a limited number of buttons and
12 sections of the app for users to navigate, such that the design does not impede "flow."

13 437. The FYP also leverages principles of IVR to encourage compulsive usage, in the
14 same fashion as Instagram Reels. A user swipes to receive the next video, and each swipe offers
15 the prospect (but not the certainty) of dopamine-releasing stimuli.

16 438. The cumulative effect of these features is addictive, compulsive engagement. As
17 researchers at the Brown University School of Public Health explained, "the infinite scroll and
18 variable reward pattern of TikTok likely increase the addictive quality of the app as they may
19 induce a flow-like state for users that is characterized by a high degree of focus and productivity
20 at the task at hand."³⁴⁶

21 439. Dr. Julie Albright, a Professor at the University of Southern California, similarly
22 explained that TikTok is so popular because users will "just be in this pleasurable dopamine
23 state, carried away. It's almost hypnotic, you'll keep watching and watching." Users "keep
24

25 ³⁴⁵ *2 Best Ways You Can Turn off TikTok Autoplay*, Globe Calls (Dec. 16, 2022),
<https://globecalls.com/2-best-ways-you-can-turn-off-tiktok-autoplay/>.

26 ³⁴⁶ Sophia Petrillo, *What Makes TikTok So Addictive? An Analysis of the Mechanisms*
27 *Underlying the World's Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health
(Dec. 13, 2021), <https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/>.

1 scrolling,” according to Dr. Albright, “because sometimes you see something you like, and
2 sometimes you don’t. And that differentiation—very similar to a slot machine in Vegas—is
3 key.”³⁴⁷

4 440. Aza Raskin, the engineer who designed infinite scroll, described the feature as
5 being “as if [social media companies are] taking behavioral cocaine and just sprinkling it all over
6 your interface, and that’s the thing that keeps you coming back and back and back.” Because the
7 infinite scroll does not “give your brain time to catch up with your impulses . . . you just keep
8 scrolling.”³⁴⁸

9 441. To reinforce this addictive experience, ByteDance intentionally omits the concept
10 of time from their product, stripping information such as when a user uploaded a video from its
11 endless stream of content. In the FYP, there is no way to discern how long ago the video was
12 posted, or when the user who posted the video joined TikTok.

13 442. On at least some phones, TikTok is designed to cover the clock displayed at the
14 top of user’s iPhones, preventing them from keeping track of the time spent on TikTok.³⁴⁹

15 443. ByteDance has designed the app so that users can see, however, how many times
16 a video was liked, commented on, or shared. So, the only thing users can quantify within the app
17 is the approval or disapproval of others.

18 444. In June 2022, after receiving public criticism regarding its product’s effects on
19 people’s mental health, ByteDance introduced various tools to purportedly encourage users to
20 take a break from infinite scrolling, such as a “Take a Break” reminder and time-limit caps.
21 ByteDance could but does not activate these tools by default. Even for minors, once they have
22

23 ³⁴⁷ John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok’s Success*, Forbes (Jan. 18,
24 2020), <https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be>.

25 ³⁴⁸ John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok’s Success*, Forbes (Jan. 18,
26 2020), <https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be>.

27 ³⁴⁹ Louise Matsakis, *On TikTok, There is No Time*, Wired (October 3, 2019),
28 <https://www.wired.com/story/tiktok-time/>.

1 exceeded 100 minutes of usage a day, TikTok only “reminds” them that these “Take a Break”
2 tools exist upon opening the app, but does not automatically activate them by default.

3 445. In addition to the defective infinite scroll, ByteDance has designed TikTok so it
4 has other design features that exploit social psychological impulses to induce children to use
5 TikTok daily and for extended periods of time, adding to the product’s addictive nature.

6 446. Several TikTok features actively encourage users to generate ephemeral photos
7 and videos. This defect promotes compulsive use, because users risk missing the content posted
8 by their friends and others if they do not check TikTok at least daily.

9 447. A TikTok user can, for example, post expiring “Stories,” short videos that
10 disappear after 24 hours. These videos do not otherwise appear in a user’s feed. TikTok’s live
11 stream feature is similar.³⁵⁰

12 448. A relatively new feature, “TikTok Now,” pushes daily notifications to users to
13 share “authentic, real-time images or 10-second videos at the same time as your friends.”³⁵¹
14 ByteDance designed this feature so that once a user gets the notification, the user has three
15 minutes to post an image or video. That user cannot view friends’ “TikTok Now” posts without
16 sharing one of their own, and posts submitted outside of the three-minute window are marked as
17 “late.” TikTok preserves a user’s history in a calendar view, adding to the pressure to visit the
18 app daily and when notified by TikTok to do so. ByteDance designed these defective features to
19 increase responsiveness to notifications and keep young users locked into the product, as they do
20 not want to miss out on this perceived social activity.

21 449. Like “Snap Streaks,” “TikTok Now” does not enhance the communication
22 function of the product, but simply exploits young users’ susceptibility to persuasive design,
23 teenage social anxiety, and FOMO. ByteDance’s insidious design of “TikTok Now” also
24 employs point scoring and competition with others to drive frequent and continuous engagement

25 ³⁵⁰ Hilary Anderson, *Social media apps are ‘deliberately addictive to users*, BBC (July 4, 2018),
26 <https://www.bbc.com/news/technology-44640959>.

27 ³⁵¹ *TikTok Now*, TikTok, [https://www.tiktok.com/creators/creator-portal/product-feature-](https://www.tiktok.com/creators/creator-portal/product-feature-updates/tiktok-now)
28 [updates/tiktok-now](https://www.tiktok.com/creators/creator-portal/product-feature-updates/tiktok-now).

1 by children, who otherwise risk checking in late and alienating other peers participating in the
2 exchange.

3 450. Like the other Defendants' apps, ByteDance designed TikTok to leverage the
4 principle of IVR by encouraging users to like, share, or reshare videos that others have created or
5 posted. Receiving a "Like" or "Reshare" indicates that others approve of that user's content and
6 satisfies their natural, developmentally predictable desire for acceptance. As discussed above,
7 "Likes" activate the reward region of the brain and release dopamine to create a positive
8 feedback loop.³⁵² Users return to TikTok again and again, hoping for yet another pleasurable
9 experience.³⁵³

10 451. ByteDance also designed TikTok to use reciprocity to manipulate users into using
11 the app. One example is the "Duet" feature, which allows users to post a video side-by-side with
12 a video from another TikTok user. Users utilize "Duet" to react to the videos of TikTok content
13 creators. ByteDance intends the response to engender a reciprocal response from the creator of
14 the original video, inducing them to return to the app.

15 452. Another "core feature" of TikTok that ByteDance has pursued are "challenges,"
16 which are campaigns that compel users to create and post in TikTok certain types of videos, such
17 as performing a dance routine or a dangerous prank. By fostering competition and the social
18 rewards of posting a challenge video, ByteDance incentivizes users to engage with the product
19 continuously.

20 453. Harmful and dangerous interactions are a foreseeable consequence of TikTok's
21 engagement-maximization design. For example, numerous minor users have injured themselves
22

23 ³⁵² Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the*
24 *Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020),
25 <https://www.iomcworld.org/openaccess/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

26 ³⁵³ Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the*
27 *Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020),
28 <https://www.iomcworld.org/openaccess/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

1 or others participating in viral pranks to obtain rewards and increase the number of likes, views,
2 and followers.

3 454. One such viral prank, “the Benadryl challenge,” features a user filming
4 themselves taking large quantities of Benadryl to cause hallucinations or induce an altered
5 mental state. Other similar viral challenges include the “NyQuil Challenge,” in which young
6 people are encouraged to eat chicken cooked in NyQuil; the “Milk Crate Challenge,” where
7 adolescents climb atop a stack of milk crates and jump off; the “Penny Challenge,” where young
8 users are encouraged to plug a charger halfway into an outlet while holding a penny against the
9 exposed prongs; and the “Blackout Challenge” where youth are encouraged to make themselves
10 faint by holding their breath and constricting their chest muscles or restricting airflow with a
11 ligature around their neck.

12 455. TikTok challenges have led to serious health complications, seizures, and death,
13 with at least 12 children in the United States dying from the TikTok Blackout Challenge alone.³⁵⁴

14 456. Nevertheless, ByteDance encourages businesses to create challenges as a form of
15 marketing, explaining that challenges are “geared towards building awareness and engagement,”
16 and “research shows that they can deliver strong results” and increased return on ad spending “at
17 every stage of the funnel.”³⁵⁵ While ByteDance extolls the revenue potential from challenges,
18 young users continue to face new and serious harms as the challenges’ stakes grow even more
19 extreme and dangerous.

23 ³⁵⁴ Quinn Nguyen, *Don’t let your kids try these 9 dangerous TikTok trends!*
24 <https://cyberpurify.com/knowledge/9-dangerous-tiktok-trends/>; Olivia Carville, *TikTok’s Viral*
25 *Challenges Keep Luring Young Kids to Their Deaths*, *Bloomberg* (Nov. 30, 2022)
[https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-](https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges)
26 [dangerous-viral-challenges](https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges).

27 ³⁵⁵ *Branded Hashtag Challenge: Harness the Power of Participation*, TikTok for Business (Mar.
28 16, 2022), [https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-](https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation)
[power-of-participation](https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation).

1 d. **ByteDance's defective features include impediments to**
2 **discontinuing use.**

3 457. Even if a user escapes the addictiveness of TikTok's design and decides to delete
4 their account, ByteDance makes doing so a lengthy and complex undertaking. The deletion
5 process is defectively designed to encourage users to retain their accounts, even if their stated
6 reason for deletion is that the product is endangering their safety or health.

7 458. When a user selects the "Deactivate or delete account" in the "Account" section
8 of the TikTok app, the user is presented an option: "Delete or deactivate?" Deactivating an
9 account will preserve the user's data, but hide it from the product; deleting, on the other hand,
10 will permanently delete all data associated with the account.

11 459. However, ByteDance designed TikTok so that deletion is not immediate. The data
12 and account are preserved for 30 days, during which time the user can reactivate their account.

13 460. If a user selects the "Delete account permanently" option, the user is asked "Why
14 are you leaving TikTok?" The user must select from the following list: (1) I'm leaving
15 temporarily; (2) I'm on TikTok too much; (3) Safety or privacy concerns; (4) Too many
16 irrelevant ads; (5) Trouble getting started; (6) I have multiple accounts; or (7) Another reason.

17 461. If a user selects "I'm on TikTok too much," ByteDance makes a last-ditch effort
18 to retain the user by reminding the user that a limit can be set on the user's watch time on the
19 product. If a user selects "Safety or privacy concerns," the user is provided a list of resources to
20 "secure" the account. If the user selects "Another reason," a written explanation must be
21 provided. The only option that does not provide or require further information is "I have multiple
22 accounts." ByteDance isn't worried about users deleting merely one account if they already have
23 multiple others.

24 462. Once a user selects a reason for deletion, the next screen prompts the user to
25 download their TikTok data.

26 463. Before the user continues the deletion, the product requires the user to check a
27 box at the bottom of the screen that says, "[b]y continuing, you reviewed your data request and
28

1 wish to continue deleting your account.” This contrasts with the process of a user “agreeing” to
2 the Terms of Service and Privacy Policy during the registration process, which does not require a
3 separate confirmation.

4 464. Once the user confirms a desire to continue with the deletion process, the product
5 takes the user to yet another screen, which yet again asks whether the user wants to “delete this
6 account?” The text also explains that the account will be deactivated for 30 days, during which
7 the user may reactivate the account, and after 30 days, the account and data associated with it
8 will be permanently deleted. It goes on to warn that if a user deletes the account, the user will no
9 longer be able to do many things in the app.

10 465. Once a user again confirms that they want to delete their account, TikTok requires
11 validation with a 6-digit code sent to the telephone number or email address associated with the
12 account. Only after the user receives and enters the code may they finally “delete” their account
13 (after waiting 30 days).

14 466. ByteDance’s account deletion process is inadequate for children attempting to
15 escape its addictive and harmful product. Requiring a child to go through multiple steps, and
16 offering alternatives, as well as a list of things they are giving up, is designed to convince them
17 to change their mind. Moreover, requiring the user to maintain a deactivated account for 30 days,
18 rather than deleting it on demand, increases the chance that an addicted user will relapse and
19 return to the app.

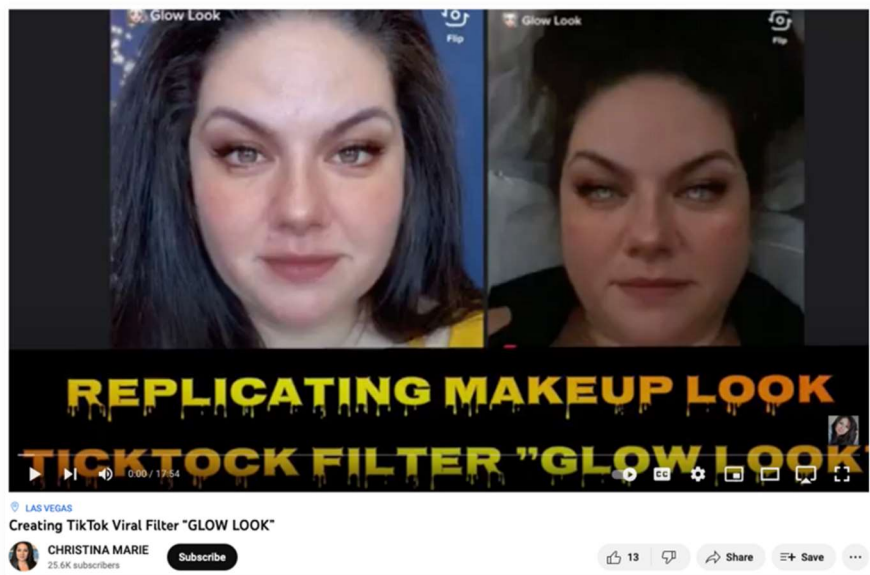
20 467. ByteDance’s intentionally cumbersome and defective deletion process prioritizes
21 the retention of young users, and ad revenue that they generate, over their well-being.

22 e. **ByteDance’s defective features inflict impossible image**
23 **standards and encourage negative appearance comparison.**

24 468. ByteDance designed TikTok with image-altering filters that harm users. These
25 filters allow children to artificially change their appearance, for example by lightening their skin
26 and eyes, giving them glowing tan skin, or giving them larger lips or fluttering eyelashes.

1 469. Young people often then compare the filtered images to their real-life appearance,
2 developing a negative self-image based on unrealistic, artificial images.³⁵⁶ Many young girls use
3 image-altering filters every day, harming their mental health. And those filters subconsciously
4 make girls feel imperfect and ugly, “reduc[ing] their self-compassion and tolerance for their own
5 physical flaws.”³⁵⁷

6 470. So compelling is the desire to resemble more closely the filtered ideal that there
7 are online tutorials explaining how to recreate certain filters using makeup.
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³⁵⁶ Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

³⁵⁷ Anna Haines, *From ‘Instagram Face’ To ‘Snapchat Dysmorphia’: How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021 at 1:19 PM EDT), <https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff>.

1 471. Children’s idealization of their filtered image is externally reinforced when the
2 filtered images receive more likes, comments, and other interaction. Young people also compare
3 these interaction “scores” to those of friends and celebrities who use filters, reinforcing the idea
4 that beauty depends on matching a digital ideal.

5 472. But filters, retouch, and other editing tools available on TikTok often alter
6 specific facial features, such as the shape of a person’s eyes and lips, in ways that would require
7 medical intervention to alter in real life. Children, particularly girls, are thus striving for a
8 standard of beauty that is functionally impossible to achieve, with every TikTok filter creating a
9 test that they are doomed to fail.

10 **4. ByteDance facilitates the spread of CSAM and child exploitation.**

11 473. ByteDance has designed various TikTok features that promote and dramatically
12 exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive
13 behavior that harms children.

14 474. TikTok’s design features enable the spread of this illegal material, and it receives
15 value in the form of increased user activity for disseminating these materials on the product.

16 475. TikTok allows users to add a location to publicly shared videos of themselves.³⁵⁸
17 TikTok encourages the use of location services, “prompt[ing] [users] to turn on Location
18 Services when [users] browse the For You feed.”

19 476. By providing access to a child user’s present physical location, ByteDance
20 encourages predators to locate nearby children for purposes of sexual exploitation, sextortion,
21 and CSAM.

22 477. ByteDance designed TikTok with a “Your Private Videos,” feature, where users
23 can create and store private videos that are only visible to the user, better known as “Post-in-
24 Private” accounts, where adult predators store, create, post, and share CSAM. Within days of
25 following a small number of “Post-in-Private” accounts, TikTok’s algorithm begins

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27 ³⁵⁸ *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.
28

1 recommending dozens of other “Post-in-Private” accounts to follow, making it easy for predators
2 to view and share even more CSAM.³⁵⁹

3 478. These accounts are nominally private, but users can share their usernames and
4 passwords with other users to access these private videos.³⁶⁰ While ByteDance’s user policy
5 forbids sharing passwords with other users, TikTok’s design means that it is nonetheless very
6 easy to do.³⁶¹

7 479. ByteDance designed TikTok to offer two-factor authentication but does not
8 require users to enable it. In fact, when a user creates a new account, the default setting disables
9 the two-factor authentication.³⁶²

10 480. Furthermore, TikTok allows more than one device to be simultaneously logged
11 into a single account, allowing multiple predators to use one “Post-in-Private” account
12 simultaneously.

13 481. ByteDance’s “Post-in-Private” accounts feature also facilitate the grooming of
14 children and adolescents by adult predators. Adult predators can store CSAM videos in “Your
15 Private Videos” and then show them to adolescent users as a grooming tool. Should adult
16 predators convince adolescent users to create CSAM of themselves in the “Post-in-Private”
17 accounts, the “Your Private Videos” feature makes it easy for the videos to be produced,
18 uploaded, and stored.

19 482. Another defective feature of TikTok is its livestream product, “TikTok LIVE.”
20 Although ByteDance’s policy restricts access for anyone under eighteen to “TikTok LIVE,”
21

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23 ³⁵⁹ *Location Information on TikTok*, TikTok, <https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok>.

24 ³⁶⁰ Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain Sight*, Forbes (Nov. 14, 2022) <https://www.forbes.com/sites/alexandrarevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=749d6cb63ad9>.

25 ³⁶¹ TikTok Terms of Service, <https://www.tiktok.com/legal/page/us/terms-of-service/en>.

26 ³⁶² *How your email and phone number are used on TikTok*, TikTok,
27 <https://support.tiktok.com/en/account-and-privacy/personalized-ads-and-data/how-your-phone-number-is-used-on-tiktok>.

1 TikTok’s design, as discussed above, does not incorporate an age verification protocol, so it is
2 easy for underage users to access this feature.³⁶³

3 483. Within “TikTok LIVE” is another feature called “LIVE Gifts” for “viewers to
4 react and show their appreciation for [] LIVE content in real-time.³⁶⁴ TikTok then awards
5 “Diamonds” to LIVE creators based on the popularity of their content. “One way for creators to
6 collect “Diamonds is to receive Gifts from viewers on [their] LIVE videos.” Creators awarded
7 “Diamonds” “may obtain a Reward Payment in money or in virtual items.”³⁶⁵

8 484. ByteDance’s design of the “LIVE Gifts” and “Diamonds” rewards greatly
9 increases the risk of adult predators targeting adolescent users for sexual exploitation, sextortion,
10 and CSAM. According to Leah Plunket, an assistant dean at Harvard Law School, “TikTok
11 LIVE” is “the digital equivalent of going down the street to a strip club filled with 15-year-
12 olds.”³⁶⁶ “Livestreams on [TikTok] are a popular place for men to lurk and for young girls—
13 enticed by money and gifts—to perform sexually suggestive acts.”³⁶⁷

14 485. Another of TikTok’s defective features enables predators to communicate
15 privately with youth, with virtually no evidence of what was exchanged. The private messaging
16 or “Direct messaging” feature allows a user to send a direct private message to another user.
17 Predators use these messages to identify children willing to respond to a stranger’s message and
18 then prey on the child’s vulnerabilities.

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21 ³⁶³ *What is TikTok LIVE?*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/what-is-tiktok-live>.

22 ³⁶⁴ *LIVE Gifts on TikTok*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok>.

23 ³⁶⁵ *LIVE Gifts on TikTok*, TikTok, <https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok>.

24 ³⁶⁶ Alexandra Levine, *How TikTok Live Became a Strip Club Filled with 15 Year Olds*, Forbes
25 (Apr. 27, 2022), <https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=5d6cf08d62d7>.

26 ³⁶⁷ Alexandra S. Levine, *How TikTok LIVE Became ‘A Strip Club Filled with 15-Year Olds,’*
27 Forbes, <https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=64c0447362d7>.

1 486. Although Tiktok’s features enable predators, TikTok does not have any feature to
2 allow users to specifically report CSAM.³⁶⁸

3 487. Federal law mandates that ByteDance reports suspected CSAM to NCEMC under
4 18 U.S.C. § 2258A. To limit and avoid its reporting requirements under federal law, ByteDance
5 purposely designed its products—which it knows are used by children, including children under
6 13—not to incorporate modern CSAM detection technology. This technology would be free for
7 ByteDance to implement within its product design.

8 488. Furthermore, in violation of 18 U.S.C. § 2258A, ByteDance knowingly fails to
9 report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

10 489. ByteDance knowingly fails to take feasible, adequate, and readily available
11 measures to remove these contraband materials from its product in a timely fashion.

12 490. ByteDance made approximately 596 reports to NCMEC in 2019 and 22,692
13 reports in 2020.³⁶⁹ However, ByteDance failed to report materials, violating the reporting
14 requirements of 18 U.S.C. § 2258A in 2019.

15 491. Users have reported “Post-in-Private” CSAM videos to TikTok, and ByteDance
16 responded that no violations of its policy were found. One user searched for and contacted
17 multiple TikTok employees to sound the alarm that CSAM was being created and shared within
18 TikTok’s “Post-in-Private” accounts. This user did not receive a single response to her
19 concerns.³⁷⁰

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23 ³⁶⁸ Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting*
24 *Functions on Popular Platforms*,
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

25 ³⁶⁹ Community guidelines enforcement report, TikTok (2022),
<https://www.tiktok.com/transparency/en-us/community-guidelines-enforcement-2020-2/>.

26 ³⁷⁰ Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain*
27 *Sight*, Forbes (Nov. 14, 2022), <https://www.forbes.com/sites/alexandralevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=290dbfa63ad9>

1 492. ByteDance nonetheless continues to make false representations that they will
2 “take immediate action to remove content, terminate accounts, and report cases to NCMEC and
3 law enforcement as appropriate.”³⁷¹

4 493. ByteDance gains revenue for every daily user on TikTok in North America. Each
5 user and their data are worth income, and ByteDance continues to benefit financially from
6 predators who commit sexual abuse against children and/or share CSAM using ByteDance’s
7 product.

8 **5. ByteDance failed to adequately warn about the harms its product**
9 **causes or to provide instructions regarding safe use.**

10 494. Since TikTok’s inception, ByteDance has failed to adequately warn young users
11 about the physical and mental health risks its product poses. These risks include, but are not
12 limited to, product abuse and addiction, sexual exploitation from adult users, dissociative
13 behavior, damage to body image, social isolation, and a plethora of mental health disorders like
14 body dysmorphia, eating disorders, anxiety, depression, insomnia, ADD/ADHD exacerbation,
15 suicidal ideation, self-harm, suicide, and death.

16 495. ByteDance targets young users via advertising and marketing materials
17 distributed throughout traditional as well as digital media, including other social media products.
18 ByteDance fails to provide adequate warnings in advertising and marketing campaigns to
19 potential adolescent consumers of the physical and mental harms associated with using TikTok.

20 496. ByteDance heavily advertises its product on YouTube and Snapchat, where it
21 knows it can effectively reach younger users. In 2019, for example, 80 percent of TikTok’s
22 advertising spending was on Snapchat.³⁷²

23 497. One TikTok ad compiles viral videos featuring people of all ages and sets the
24 video to the pandemic musical hit “Bored in the House,” by a popular TikTok creator. The 15-

25 _____
26 ³⁷¹ *Protecting Against Exploitative Content*, TikTok, <https://newsroom.tiktok.com/en-us/protecting-against-exploitative-content>.

27 ³⁷² *TikTok – Snapchat’s Biggest Advertiser – What’s the Strategy*, Media Radar (Feb. 24, 2020),
28 <https://mediaradar.com/blog/tiktok-snapchat-advertising-strategy/>.

1 second video, titled “It Starts On TikTok,” notes, “if it’s in culture, it starts on TikTok.”³⁷³ Zhu
2 highlighted the importance of the U.S. teen market to TikTok, admitting that in China, “teenage
3 culture doesn’t exist” because “teens are super busy in school studying for tests, so they don’t
4 have the time and luxury to play social media apps.” On the other hand, teen culture in the
5 United States is “a golden audience.”³⁷⁴

6 498. Other advertisements ByteDance places on YouTube promote TikTok as a
7 family-friendly product. For example, one commercial features parents impersonating their
8 children, explaining that “parents roasting their kids is the best kind of family bonding.”³⁷⁵
9 Another TikTok ad asks content creators what TikTok means to them. Responses include
10 “family,” “sharing special moments with my daughter,” and a featured appearance by well-
11 known TikTok creator Addison Rae, who says TikTok represents “family and fun.”³⁷⁶

12 499. ByteDance released another TikTok ad, part of the “It Starts on TikTok” ad
13 campaign, and scheduled it to release on the linear TV, digital media, digital out-of-home, radio
14 and TikTok’s own social channels.³⁷⁷ The tagline for the campaign was “[I]oving all of you and
15 the things you do. Celebrating you” and featured a series of viral clips of various cheerful scenes
16 depicting people gathered with friends and family of ages.

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21 ³⁷³ TikTok, *It Starts on TikTok: Bored in the House*, YouTube (Sept. 9, 2020),
<https://www.youtube.com/watch?v=DWZCgkmcIjE>.

22 ³⁷⁴ Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y.
23 Times (Aug. 9, 2016), [https://www.nytimes.com/2016/08/10/technology/china-homegrown-
internet-companies-rest-of-the-world.html](https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html).

24 ³⁷⁵ *Family Impressions, Compilation*, TikTok’s Official YouTube Page,
<https://www.youtube.com/watch?v=6EYzm25gW-s>.

25 ³⁷⁶ *TikTok Creators Share Their Thoughts About TikTok*, TikTok’s Official YouTube Page
<https://www.youtube.com/watch?v=KAveGBv7HVM>.

26 ³⁷⁷ Todd Spangler, *TikTok Launches Biggest-Ever Ad Campaign as Its Fate Remains Cloudy*,
27 Variety (Aug. 10, 2020), [https://variety.com/2020/digital/news/tiktok-advertising-brand-
campaign-sale-bytedance-1234738607/](https://variety.com/2020/digital/news/tiktok-advertising-brand-campaign-sale-bytedance-1234738607/).

1 500. ByteDance is also one of the biggest advertisers on Snapchat. In 2019, ByteDance
2 accounted for 4.4% of Snapchat’s advertising revenue.³⁷⁸ ByteDance knows that advertising on
3 Snapchat is an effective way to reach a young audience. Snap claims that its Snapchat product
4 reaches 90% of people aged 13-24 years old, and 75% of 13-34 year olds in the United States.

5 501. Despite its funny, cheerful ads featuring smiling families and funny images,
6 TikTok, as designed, presents serious risks to young users on the platform, through its distinctive
7 and manipulative product features, including a lack of adequate age and identity verification
8 tools, as well as inadequate parental controls.

9 502. ByteDance fails to adequately warn young users of these risks beginning with the
10 first stages of the product registration process. At account setup, TikTok contains no warning
11 labels, banners, or conspicuous messaging to adequately inform adolescent users of product
12 risks, potential dangers, and physical and mental harm associated with usage of the product.
13 Instead, ByteDance allows underage users to easily create an account (or multiple accounts) and
14 fully access the product.

15 503. ByteDance’s lack of appropriate warnings continues once a child has TikTok.
16 ByteDance does not suitably inform child users that their data will be tracked, used to help build
17 a unique algorithmic profile, and potentially sold to TikTok’s advertising clients.

18 504. Alarmingly, ByteDance also does not adequately warn young users before
19 facilitating adult connections and interactions that adult predators use its product.

20 505. ByteDance’s failure to adequately warn young users about the risks of the product
21 continues even if they display signs of addiction or habitual and compulsive use. Besides the
22 disabled by default “Take a Break” reminder, ByteDance does not warn users when their screen
23 time reaches harmful levels or when young users are accessing the product on a habitual basis.

24
25
26 ³⁷⁸ Robert Williams, *TikTok is the biggest advertiser on Snapchat, study says*, MarketingDive
27 (March 16, 2020), <https://www.marketingdive.com/news/tiktok-is-the-biggest-advertiser-on-snapchat-study-says/574164/>.
28

1 506. Not only does ByteDance fail to adequately warn users about the risks associated
2 with TikTok, but it also does not provide sufficient instructions on how children can safely use
3 the product. A reasonable and responsible company would instruct children on best practices and
4 safety protocols when using a product known to contain danger and health risks.

5 507. ByteDance, however, fails to adequately warn users that:

- 6 a. sexual predators use its product to produce and distribute CSAM;
- 7 b. adult predators targeting children for sexual exploitation, sextortion, and
8 CSAM are prevalent on ByteDance’s product;
- 9 c. usage of its product can increase the risk of children being targeted and
10 sexually exploited by adult predators;
- 11 d. usage of its product can increase risky and uninhibited behavior in
12 children, making them easier targets to adult predators for sexual
13 exploitation, sextortion, and CSAM; and,
- 14 e. end-to-end encryption and/or the ephemeral nature of ByteDance’s direct
15 messaging product prevents the reporting of CSAM.

16 508. ByteDance failed to adequately warn parents about all of the foregoing dangers
17 and harms.

18 **F. GOOGLE MARKETS AND DESIGNS YOUTUBE TO ADDICT YOUNG**
19 **USERS, SUBSTANTIALLY CONTRIBUTING TO THE MENTAL**
20 **HEALTH CRISIS**

21 509. Eric Schmidt, the former CEO of Google and more recently, Alphabet,
22 YouTube’s corporate parent, recently acknowledged the powerful, and purposeful, addictive
23 effect of social media. Social media products are about “maximizing revenue,” Mr. Schmidt said,
24 and the best way to maximize revenue is to “maximize engagement.” As Mr. Schmidt continued,
25 in pursuit of their goal of maximizing engagement to increase revenues, social media products
26 “play into the addiction capabilities of every human.”³⁷⁹

27 ³⁷⁹ Issie Lapowsky, *Eric Schmidt: Social Media Companies ‘Maximize Outrage’ for Revenue*,
28 Protocol (Jan. 6, 2022), <https://www.protocol.com/bulletins/eric-schmidt-youtube-criticism>.

1 510. Google’s YouTube product is no exception. It includes specific, carefully
2 calibrated features that are known to exploit the mental processes of its users to keep them
3 engaged for as long, as frequently, and as intensely as possible. Google knows that children and
4 teenagers who flock in droves to its YouTube product are particularly susceptible to these
5 features. The impact of YouTube’s addictive power on American youth has been devastating.

6 **1. Background and overview of YouTube.**

7 511. YouTube is a social media product that allows users to post and consume
8 countless hours of video content about virtually any topic imaginable. YouTube is available
9 without any age verification feature or adequate parental controls, and comes pre-installed in
10 many Smart-TVs, mobile devices, various digital media players like Roku, and video game
11 consoles like PlayStation, Wii, X-box and Nintendo.

12 512. YouTube allows users to search for specific video content. It also employs a
13 powerful algorithm that exploits detailed user information to target each individual user with
14 hours upon hours of videos recommended by YouTube.

15 513. A group of design experts and computer scientists created YouTube and launched
16 the product for public use in December 2005.

17 514. Technology behemoth Google quickly recognized YouTube’s huge profit
18 potential. In 2006, just a year after YouTube’s launch, Google acquired YouTube for more than
19 \$1.65 billion in Google stock. At the time, Google’s acquisition of YouTube was one of the
20 largest-ever tech acquisitions.

21 515. YouTube primarily generates revenue by selling advertising. The more people
22 who use YouTube and spend time on the site, the more ads YouTube can sell.³⁸⁰ The ads are then
23 embedded or placed within the endless stream of videos recommended to the user by YouTube’s
24 algorithm.

25
26 ³⁸⁰ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
27 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

1 516. By 2012, YouTube users were watching close to four billion hours of video every
2 month. Yet, the average YouTube user spent just fifteen minutes daily engaged with the
3 product.³⁸¹ Users “were coming to YouTube when they knew what they were coming to look
4 for.”³⁸² They employed the product to identify and watch certain video content, and then they
5 were done.

6 517. To drive greater revenue, “YouTube . . . set a company-wide objective to reach
7 one billion hours of viewing a day[.]”³⁸³

8 518. As Susan Wojcicki, YouTube’s CEO explained, the goal of a “billion hours of
9 daily watch time gave our tech people a North Star.”³⁸⁴

10 519. Google decided that “the best way to keep eyes on the site” was to introduce a
11 feature that would “[recommend] videos, [that were playing] or after one was finished.”³⁸⁵

12 520. That new product feature uses a recommendation algorithm to identify and push
13 additional videos to users, which YouTube plays automatically, through a feature called
14 “autoplay.” Autoplay begins the next video as soon as the previous videos ends, creating a
15 constant stream of content.

16 521. Google’s design changes worked. Today, YouTube “has over 2 billion monthly
17 logged-in users.”³⁸⁶ And that 2 billion figure does not capture all product usage because
18

19 ³⁸¹ John Seabrook, *Streaming Dreams: YouTube Turns Pro*, New Yorker (Jan. 16, 2012),
20 <https://www.newyorker.com/magazine/2012/01/16/streaming-dreams>.

21 ³⁸² Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017),
22 <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

23 ³⁸³ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
24 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

25 ³⁸⁴ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
26 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

27 ³⁸⁵ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
28 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

³⁸⁶ *YouTube for Press*, YouTube, <https://blog.youtube/press/>.

1 YouTube, by design, allows users to consume videos without logging in or registering an
2 account.

3 **2. Google intentionally encourages youth to use YouTube and then**
4 **leverages that use to increase revenue.**

5 522. Google knows that children and teenagers use YouTube in greater proportions
6 than older demographics. YouTube now ranks as the world’s most popular social media product
7 for minors. According to one recent report, more than 95% of children ages 13-17 have used
8 YouTube.³⁸⁷ Nearly 20% of U.S. teens use YouTube almost constantly.³⁸⁸ Among U.S. teenagers
9 who regularly use social media, 32% “wouldn’t want to live without” YouTube.³⁸⁹

10 523. Rather than ensuring minors are not inappropriately or excessively using
11 YouTube, Google has sought to dominate their attention.

12 524. YouTube’s age controls are defective (or non-existent, since registration is not
13 required). In addition, Google has developed and marketed a version of YouTube, YouTube
14 Kids, explicitly targeted at children under 13. Google developed this product to encourage
15 early—and therefore lasting—adoption of YouTube by children.

16 525. Google knows that a robust and committed base of young users is key to
17 maximizing advertising revenue. Indeed, it has aggressively touted its hold on child users to
18 advertisers.

19 526. In 2014, for example, Google pitched its YouTube product to Hasbro, a popular
20 toy manufacturer, and specifically boasted of the product’s immense popularity among children,
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22 ³⁸⁷ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
23 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

24 ³⁸⁸ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
25 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

26 ³⁸⁹ Victoria Rideout et al., *Common Sense Census: Media Use by Tweens and Teens, 2021* at 31,
27 Common Sense Media (2022), https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

1 noting that it was “unanimously voted as the favorite website of kids 2-12” and that “93% of
2 tweens” use the product.³⁹⁰

3 527. In 2015, Google gave a similar presentation to toy manufacturer Mattel, the maker
4 of Barbie and other popular kids’ toys, highlighting children’s widespread use of YouTube to
5 persuade Mattel to display digital ads on the site.³⁹¹

6 528. The FTC has aptly summarized Google’s pitch to advertisers concerning the value
7 of its youth user base.³⁹² For example, Google boasted that YouTube “is today’s leader in
8 reaching children age 6-11;” “the new ‘Saturday Morning Cartoons’;” “unanimously voted as the
9 favorite website of kids 2-12;” “the #1 website regularly visited by kids;” and used by “93% of
10 tweens.”³⁹³

11 529. Many of YouTube’s most-viewed videos are kid-focused, and the most
12 subscribed and highest paid YouTubers are children. With over 12 billion views, “Baby Shark
13 Dance,” a video aimed at toddlers, is the most viewed video in the history of YouTube– and it
14 and five other child-focused videos make up the top ten YouTube videos of all time.³⁹⁴ Child
15 creators also dominate top-earner lists year after year. Ryan Kaji of Ryan’s World (f/k/a Ryan
16 ToysReview), a channel featuring now 12-year-old Ryan Kaji unboxing children’s toys, has been
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19 ³⁹⁰ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
20 *Google LLC* et al., No. 1-19-cv-02642-BAH, at 6 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

21 ³⁹¹ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
22 *Google LLC* et al., No. 1-19-cv-02642-BAH, at 3 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

23 ³⁹² *Google and YouTube Will Pay Record \$170 Million for Alleged Violations of Children’s*
24 *Privacy Law*, FTC (Sept. 4, 2019), [https://www.ftc.gov/news-events/news/press-](https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law)
25 [releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-](https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law)
26 [privacy-law](https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law). (“YouTube touted its popularity with children to prospective corporate clients”,
27 said FTC Chairman Joe Simons.)

28 ³⁹³ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v.*
29 *Google LLC* et al., No. 1-19-cv-02642-BAH, at 3,12, and 6-7 (D.D.C. Sept. 4, 2019) Dkt. #1-1.
https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

³⁹⁴ Most Viewed Videos of All Time • (Over 700M views) - YouTube.
https://www.youtube.com/playlist?list=PLirAqAtl_h2r5g8xGajEwdXd3x1sZh8hC

1 among YouTube’s Top 10 most-subscribed channels in the United States since 2016.³⁹⁵ Ryan
2 started Ryan’s World in 2015 when he was only 3. By 2017, his videos had over 8 billion views,
3 and by 2018, he was the highest-earning YouTuber in the world.³⁹⁶

4 530. As with other defendants, once Google lures children in, it then mines them (and
5 all other users) for a breathtaking amount of data. Google’s current privacy policy, which
6 includes the YouTube product’s data collection, reveals how sweeping this data collection is. It
7 states that Google tracks:

- 8 a. “information about the apps, browsers, and devices you use
9 to access Google services . . . include[ing] unique
10 identifiers, browser type and settings, device type and
11 settings, operating system, mobile network information
12 including carrier name and phone number, and application
13 version number. We also collect information about the
14 interaction of your apps, browsers, and devices with our
15 services, including IP address, crash reports, system
16 activity, and the date, time, and referrer URL of your
17 request.”
- 18 b. “your activity in our services . . . includ[ing] terms you
19 search for[;] videos you watch[;] views and interactions
20 with content and ads[;] voice and audio information[;]
21 purchase activity[;] people with whom you communicate or
22 share content[;] activity on third-party sites and apps that
23 use our services[;] and Chrome browsing history you’ve
24 synced with your Google Account.”
- 25 c. “Your location information [including] GPS and other
26 sensor data from your device[;] IP address[;] activity on
27 Google services, such as your searches and places you label
28 like home or work[;] [and] information about things near

395 Madeline Berg, *The Highest-Paid YouTube Stars of 2019: The Kids Are Killing It*, Forbes (Dec. 18, 2019), <https://www.forbes.com/sites/maddieberg/2019/12/18/the-highest-paid-youtube-stars-of-2019-the-kids-are-killing-it/?sh=4c3df9a438cd>; Madeline Berg, *The Highest-Paid YouTube Stars 2017: Gamer DanTDM Takes The Crown With \$16.5 Million*, Forbes (Dec. 7, 2017), <https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979>

396 *Gamer DanTDM Takes The Crown With \$16.5 Million*, Forbes (Dec. 7, 2017), <https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979>; Natalie Robehmed & Madeline Berg, *Highest-Paid YouTube Stars 2018: Markiplier, Jake Paul, PewDiePie And More*, Forbes (Dec. 3, 2018), <https://www.forbes.com/sites/nalierobehmed/2018/12/03/highest-paid-youtube-stars-2018-markiplier-jake-paul-pewdiepie-and-more/?sh=7d909c3f909a>.

1 your device, such as Wi-Fi access points, cell towers, and
2 Bluetooth-enabled devices;”³⁹⁷

3 531. Google’s privacy policy also indicates that, like other Defendants, it purchases
4 data about its users from data brokers, which it euphemistically refers to as “trusted partners” or
5 “marketing partners.”³⁹⁸

6 532. As with other Defendants, YouTube’s collection and analysis of user data allows
7 it to assemble virtual dossiers on its users, covering hundreds if not thousands of user-specific
8 data segments. This, in turn, allows advertisers to micro-target marketing and advertising dollars
9 to very specific categories of users, who can be segregated into pools or lists using YouTube’s
10 data segments. Advertisers purchase ad real estate space on users’ feeds, which allow them to
11 place the right ads in front of these micro-targeted segments of users—including children, both in
12 the main YouTube frame and in the YouTube Kids product. Only a fraction of these data
13 segments come from content knowingly designated by users for publication or explicitly
14 provided by users in their account profiles. Instead, many of these data segments are collected by
15 YouTube through surveillance of each user’s activity while using the product and even when
16 logged off the product.³⁹⁹

17 533. As with Meta, Google’s data policy does not inform users that the more time
18 individuals spend using YouTube, the more ads Google can deliver and the more money it can
19 make, or that the more time users spend on YouTube, the more YouTube learns about them, and
20 the more it can sell to advertisers the ability to micro-target highly personalized ads.

21 534. Google’s secret virtual dossiers on its users, including child users, fuel its
22 algorithms. The company relies on this data—including data plainly reflecting use by children—
23 to train its algorithms. A Google engineer explained in a 2014 presentation:

24 What do I mean by a training example? It’s a single-user
25 experience. On YouTube, perhaps it’s that one [Thomas the Tank

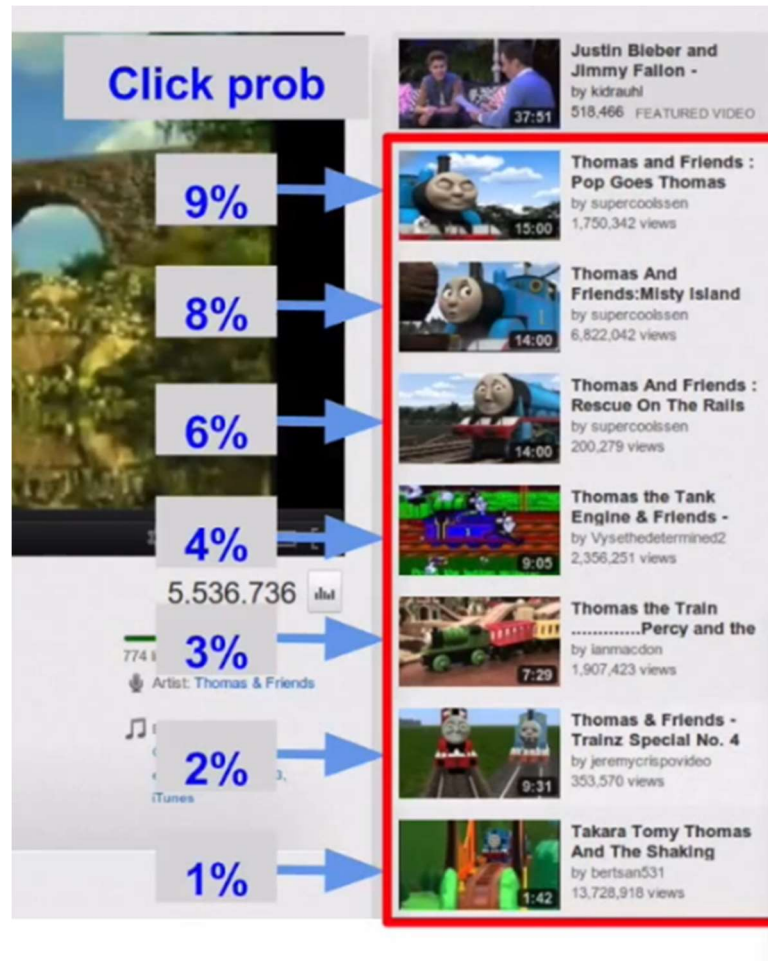
26 ³⁹⁷ Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

27 ³⁹⁸ Information Google Collects. <https://policies.google.com/privacy?hl=en#infocollect>.

28 ³⁹⁹ About Targeting for Video Campaigns, Google,
<https://support.google.com/youtube/answer/2454017?hl=en>.

1 Engine] webpage my son saw six months ago, along with all the
2 recommendations that we showed him. We also record the
3 outcome to know whether the recommendations we made are good
4 or whether they're bad. That's a single training exercise. On a
large property, you can easily get into hundreds of billions of
these.⁴⁰⁰

5 The engineer illustrated this with a slide, excerpted below, presenting how algorithmic analysis
6 both structured the format of recommendations of Thomas the Tank Engine YouTube videos and
7 provided information to inform algorithmic training through user engagement:



26 ⁴⁰⁰ Alex Woodie, *Inside Sibyl, Google's Massively Parallel Machine Learning Platform*,
27 *Datanami* (Jul. 17, 2014) <https://www.datanami.com/2014/07/17/inside-sibyl-googles-massively-parallel-machine-learning-platform/>.

1 535. Through these and other efforts, YouTube has delivered massive amounts of
2 advertising revenue to Google. In 2021 alone, YouTube generated about \$29 billion in revenue
3 selling ads on its site.⁴⁰¹

4 **3. Google intentionally designed product features to addict children and**
5 **adolescents.**

6 536. Google devised and continues to employ interrelated product features to increase
7 usage and maximize engagement by teenagers and children. Simply put, YouTube’s product
8 features are engineered to induce excessive use and to addict adolescents and children to the
9 product.

10 **a. Google’s age-verification measures and parental controls are**
11 **defective.**

12 537. Google’s strategy to entrench minor users begins with access. The company
13 purports to impose a minimum age requirement and claims to verify the age of its users. But
14 those features are defective, as they do little to prevent children and teenagers from using the
15 product.

16 538. Anyone with access to the Internet, regardless of age, can use YouTube and
17 access every video available through the product without registering an account or verifying their
18 age. YouTube does not even ask for age information before allowing users to consume YouTube
19 videos.

20 539. A user needs an account to post content or like (or comment) on videos. But to get
21 one, a user needs only enter a valid email address and a birthday. Google does nothing to verify
22

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24 ⁴⁰¹ Andrew Hutchinson, *YouTube Generated \$28.8 Billion in Ad Revenue in 2021*, Social Media
25 Today (Feb. 2, 2021), <https://www.socialmediatoday.com/news/youtube-generated-288-billion-in-ad-revenue-in-2021-fueling-the-creator/618208/>; Jennifer Elias, *YouTube Is a Media Juggernaut That Could Soon Equal Netflix in Revenue*, CNBC (Apr. 27, 2021),
26 <https://www.cnn.com/2021/04/27/youtube-could-soon-equal-netflix-in-revenue.html>.
27

1 the birthday entered by users in the U.S.—and the product freely permits users to change their
2 birthdays in their account settings after creating an account.

3 540. YouTube’s defective age verification feature means that Google fails to protect
4 children from other product features discussed below that Google knows to be harmful to kids.

5 541. For example, for users 13-17, Google claims to disable YouTube’s autoplay
6 feature. However, that measure is virtually meaningless because children can use YouTube
7 without logging into any account or by logging in but misreporting their age.

8 542. Even if children use YouTube Kids, that product contains many of the same
9 defects YouTube does, including a harmful, manipulative algorithm, as alleged below.

10 543. Google cannot credibly claim that it is unaware of the fact and extent of youth
11 usage of YouTube. Google’s system can “identify children as being much younger than 13.”⁴⁰²
12 According to Tracking Exposed, YouTube can rapidly identify a user as a child.⁴⁰³

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25 ⁴⁰² Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6 (Apr. 2022),
26 <https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

27 ⁴⁰³ Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 15, 18 (Apr. 2022),
28 <https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

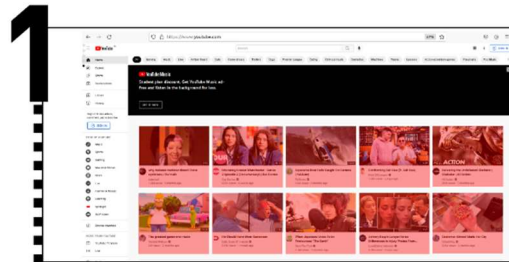
Flow

Watching a
"for kids" video

Video's nature legend



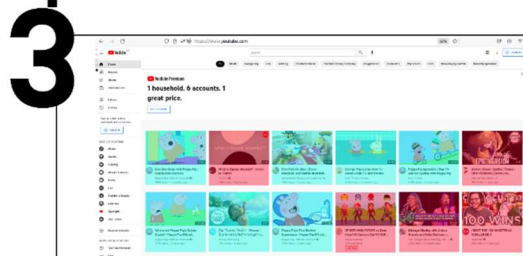
tracking.exposed



Homepage, first access



Watching a video for kids (Peppa Pig)



Homepage after watching one video

544. Google engineers have publicly admitted YouTube's algorithm tracks user age. As Google engineers outlined in a 2016 paper on YouTube's recommendation system, "[d]emographic features are important for providing priors so that the recommendations behave reasonably for new users. The user's geographic region and device are embedded and concatenated. Simple binary and continuous features such as the user's gender, logged-in state and age are input directly into the network as real values normalized to [0; 1]."⁴⁰⁴

⁴⁰⁴ Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

1 545. The Tracking Exposed Report indicated that there was “strong evidence” that
2 Google’s systems continue to refine and develop a more precise estimate for under 18 users, but
3 the product does not “redirect them to YouTube Kids.”⁴⁰⁵

4 **b. YouTube is defectively designed to inundate users with**
5 **features that use intermittent variable rewards and reciprocity.**

6 546. Google uses a series of interrelated design features that exploit known mental
7 processes to induce YouTube’s users to use the product more frequently, for more extended
8 periods, and with more intensity (i.e., providing more comments and likes). Google knows
9 children and adolescents, whose brains are still developing, are particularly susceptible to these
10 addictive features.

11 547. Google designed its product so that when children and teenagers use it, they are
12 inundated with interface design features specifically designed to dominate their attention and
13 encourage excessive use. Every aspect of how YouTube presents the format of a given page with
14 a video is structured to ensure unimpeded viewing of the videos, alongside download, like, and
15 share buttons, plus recommendations for more videos to watch. The organization of these
16 features is carefully calibrated to adjust to the space constraints of a user’s device, such that
17 minimal effort is needed to watch a video unimpeded. YouTube even has an ambient mode that
18 uses dynamic color sampling so that the YouTube product adapts to the video being watched and
19 the user is not distracted by the video’s borders.⁴⁰⁶

20 548. Like the other Defendants, Google has designed YouTube with features that
21 exploit neuropsychology to maximize the time users (including children) spend using the
22 product.

23 549. IVR features, such as notifications and likes, compel YouTube content creators
24 and consumers, particularly children, to use the product habitually and excessively. For example,

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26 ⁴⁰⁵ Tracking Exposed, Report: Non-Logged-In Children Using YouTube at 6, 19 (Apr. 2022),
<https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf>.

27 ⁴⁰⁶ YouTube rolling out black dark theme, ‘Ambient Mode,’ and other video player updates (Oct.
28 24, 2022). <https://9to5google.com/2022/10/24/youtube-ambient-mode/>.

1 in order to create and upload content to YouTube, a user under 13 may submit a fictitious
2 birthdate in order to gain access to posting privileges. Once the young user has a logged-in
3 account, they are capable of receiving notifications and likes. For example, the logged in user
4 can subscribe to various YouTube channels, which in turn will send them notifications from
5 various channels they follow. Similarly, young content creators who upload videos to YouTube
6 are able to track the likes received by the video. These features psychologically reward creators
7 who upload videos to YouTube. As explained above, receiving a “Like” shows others’ approval
8 and activates the brain’s reward region.⁴⁰⁷ Thus, users’ ability to like content encourages creators
9 to use the product compulsively, seeking additional pleasurable experiences.

10 550. Another YouTube defect is the design Google engineers deploy to induce “flow”
11 state among users, which as described above is dangerous to children because it induces
12 excessive use and poses a risk of addiction, compulsive use, and sleep deprivation.

13 551. YouTube uses two design features that induce flow state. The first is its panel of
14 recommended videos. YouTube recommends videos both on the home page and on each video
15 page in the “Up Next” panel.⁴⁰⁸ This panel pushes an endless stream of videos that YouTube’s
16 algorithm selects and “suggests” to keep users watching by teasing a pipeline of upcoming
17 content.

18 552. The second feature is autoplay, which complements the Up Next panel and
19 seamlessly takes users through the list of upcoming videos without users having to affirmatively
20 click on or search for other videos. This constant video stream—comprised of videos
21 recommended by YouTube’s algorithm—is the primary way Google increases the time users
22 spend using its product. This endless video succession induces users to enter a flow state of
23 consumption, which is particularly dangerous for children.

25 ⁴⁰⁷ See, e.g., Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer*
26 *Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July
2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

27 ⁴⁰⁸ Recommended Videos, YouTube, [https://www.youtube.com/howyoutubeworks/product-](https://www.youtube.com/howyoutubeworks/product-features/recommendations/)
28 [features/recommendations/](https://www.youtube.com/howyoutubeworks/product-features/recommendations/).

1 553. In an April 2021 letter to YouTube CEO Susan Wojcicki, the House Committee
2 on Oversight and Reform criticized the autoplay feature:

3 This places the onus on the child to stop their viewing activity,
4 rather than providing a natural break or end point. Without that
5 natural stopping point, children are likely to continue watching for
6 long periods of time.⁴⁰⁹

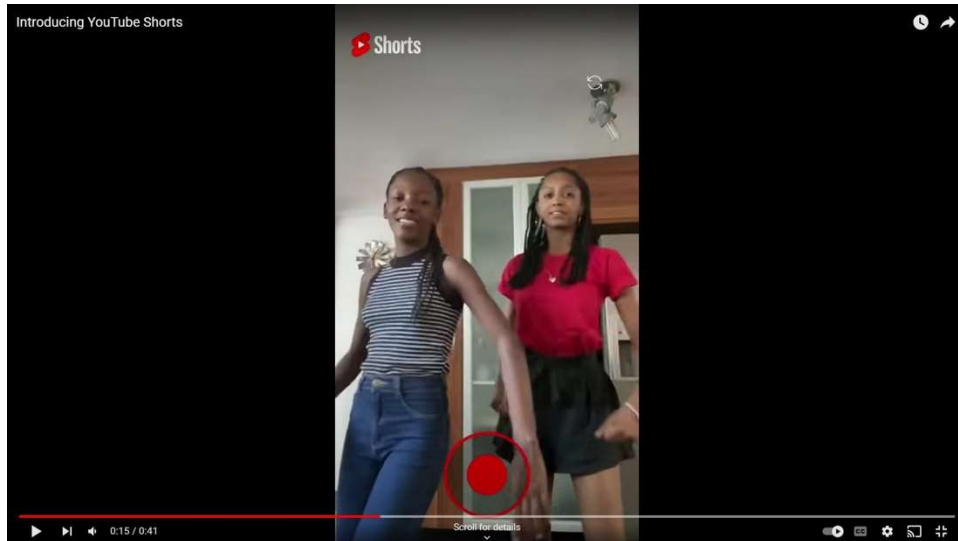
7 554. This defect is particularly acute for Google’s recently launched YouTube Shorts.
8 YouTube Shorts enables users to create short videos up to sixty seconds in length, in a full-
9 screen format popularized by TikTok and copied by Instagram Reels. As in Reels and TikTok,
10 Shorts are presented in an algorithmically generated feed; users can watch new videos by
11 swiping up on their smartphones. Instead of presenting videos chronologically, they are
12 organized in a manner to drive the most watch time, as dictated by the algorithm. Indeed, Google
13 hired TikTok’s North American head, Kevin Ferguson, and other TikTok engineers to develop
14 YouTube Shorts.⁴¹⁰ And much like those other products, the ability to scroll continuously
15 through YouTube Shorts content induces a “flow-state,” distorting users’ sense of time and
16 facilitating extended use.

17 555. An important target audience for YouTube Shorts is children. For example,
18 YouTube Shorts features content, such as child “influencers,” that appeals to children. YouTube
19 Shorts also contains similar defects to other Defendants’ short form products, including the
20 ability to scroll continuously through YouTube Shorts, inducing a “flow-state” that distorts
21 users’ sense of time and facilitates extended use, and dangerous exploitation of “social
22 comparison” techniques by promoting misleadingly idealized portrayals from influencers and
23 others who are rewarded for posting popular material.

24 ⁴⁰⁹ Letter from Rep. Raja Krishnamoorthi, Chairman, Subcomm. on Economic and Consumer
25 Policy, to Susan Wojcicki, CEO, YouTube (Apr. 6, 2021),
26 [https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2021-04-
06.RK%20to%20Wojcicki-YouTube%20re%20YouTube%20Kids%20Content.pdf](https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2021-04-06.RK%20to%20Wojcicki-YouTube%20re%20YouTube%20Kids%20Content.pdf),

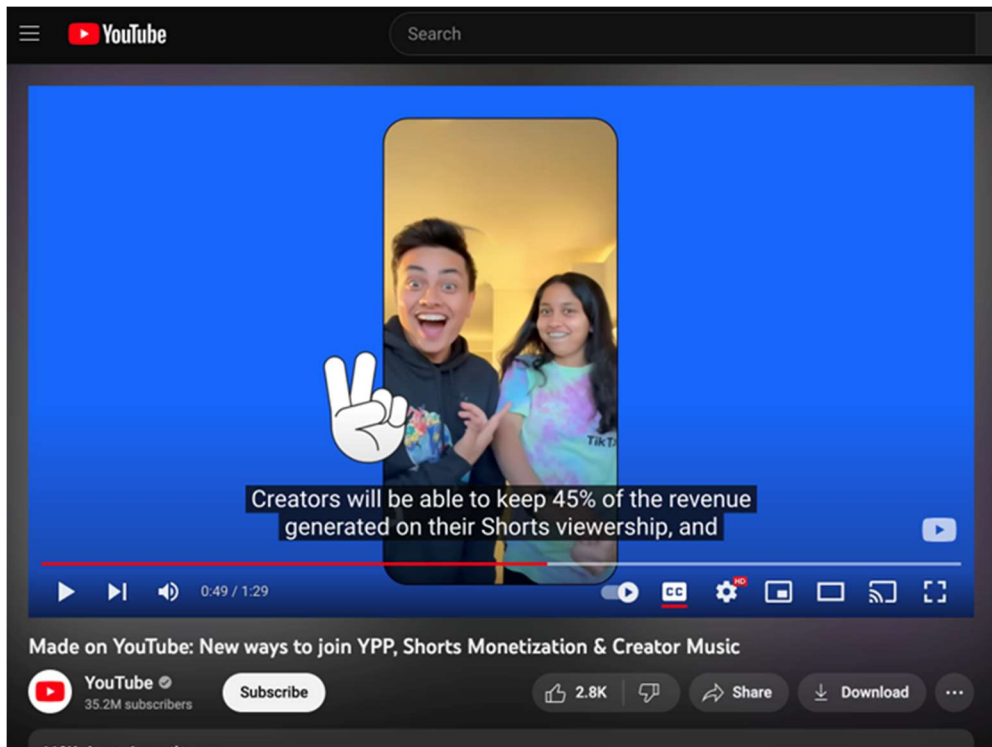
27 ⁴¹⁰ Richard Nieva, *In the Age of TikTok, YouTube Shorts Is a Platform in Limbo*, Forbes (Dec.
28 20, 2022), [https://www.forbes.com/sites/richardnieva/2022/12/20/youtube-shorts-monetization-
multiformat/](https://www.forbes.com/sites/richardnieva/2022/12/20/youtube-shorts-monetization-multiformat/).

1 556. Almost immediately upon launch, Google began marketing YouTube Shorts to
2 children. For example, Google launched an advertisement featuring images of children and
3 teenagers (like in the screenshot below) engaging with the YouTube Shorts product.
4



13 557. Similarly, another advertisement for Shorts explains how creators on YouTube
14 can keep revenue generated by their Shorts viewership, while an image of a video creator young
15 enough to be in braces appears on screen.⁴¹¹
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27 ⁴¹¹ Made on YouTube: New ways to join YPP, Shorts Monetization & Creator Music.
28 <https://www.youtube.com/watch?v=h6TrvCV3NdU>.



558. Shorts is one of YouTube’s interrelated design features that exploit known mental processes to induce YouTube users to use the product more frequently, for more extended periods, and with more intensity (i.e., providing more comments and likes). Not surprisingly, given its copycat origin, the defects in Shorts replicate the defects in TikTok and Instagram Reels, discussed above. Google knows or should have known that children, whose brains are still developing, are particularly susceptible to such addictive features.

559. YouTube has monetized users’ susceptibility to IVR by allowing creators who obtain more than a thousand subscribers with four-thousand valid public watch hours to qualify for the YouTube Partner Program. Once a creator obtains this elite status, they are rewarded with “Super Chat” and “Super Stickers”—special images or distinct messages that other users can purchase and place on a creator’s channel.⁴¹² Paid messages, including the amount donated, are visible to all users. And the more a user pays for these promotions, the more prominent and longer the image is displayed. Both features are intended to allow a user to show support for, or

⁴¹² YouTube Partner Program: How to Make Money on YouTube, https://www.youtube.com/intl/en_us/creators/how-things-work/video-monetization/.

1 connect with, their favorite YouTube creators. Similar to the “Likes” feature, this paid support
2 activates the reward center of the content creator’s brain and releases dopamine while the creator
3 is generating revenue for YouTube.

4 **c. Google’s algorithms are designed to maximize “watch time.”**

5 560. Google engineers algorithms to recommend videos to YouTube users.

6 561. YouTube began building its’ algorithms in 2008.⁴¹³ Its goal was to maximize how
7 long users spent watching YouTube videos.⁴¹⁴

8 562. These algorithms select videos that populate the YouTube homepage, rank results
9 in user searches, and push videos for viewers to watch through the “Up Next” feature.

10 563. YouTube designed its algorithms to manipulate users and induce them to use
11 YouTube excessively.

12 564. A former YouTube engineer explained that when he designed YouTube’s
13 algorithm, YouTube wanted to optimize for one key metric: “watch time.”⁴¹⁵ The engineer
14 elaborated that “[i]ncreasing users’ watch time is good for YouTube’s business model” because
15 it increases advertising revenue.⁴¹⁶

16 565. In 2012 the YouTube Head of Content Creator Communications, similarly
17 explained: “When we suggest videos, we focus on those that increase the amount of time that the
18 viewer will spend watching videos on YouTube, not only on the next view, but also successive
19 views thereafter.”⁴¹⁷

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21 ⁴¹³ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

22 ⁴¹⁴ Ben Popken, *As Algorithms Take Over, YouTube’s Recommendations Highlight a Human
23 Problem*, NBC (Apr. 19, 2018), <https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight-human-problem-n867596>.

24 ⁴¹⁵ William Turton, *How YouTube’s Algorithm Prioritizes Conspiracy Theories*, Vice (Mar. 5,
25 2018), <https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories>.

26 ⁴¹⁶ Jesselyn Cook & Sebastian Murdock, *YouTube Is a Pedophile’s Paradise*, Huffington Post
(Mar. 20, 2020), https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db.

27 ⁴¹⁷ Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012),
<https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/>.

1 566. The current algorithm uses deep-learning neural networks, a type of software that
2 returns outputs based on data fed into it.⁴¹⁸ The VP of Engineering at YouTube, explained that it
3 is “constantly evolving, learning every day from over 80 billion pieces of information [Google]
4 calls signals.”⁴¹⁹ Those signals include “watch and search history . . . , channel subscriptions,
5 clicks, watchtime, survey responses, and sharing, likes, and dislikes.”⁴²⁰ They also include user
6 demographic information like age and gender.⁴²¹

7 567. Google’s algorithm also “uses data from your Google Account activity to
8 influence your recommendations.”⁴²²

9 568. The algorithm “develops dynamically” to predict which posts will hold the user’s
10 attention.⁴²³ That is, it can also determine which “signals” are more important to individual users.
11 For example, if a user shares every video they watch, including those they rate low, the
12 algorithm learns to discount the significance of the user’s shares when recommending content.⁴²⁴

13 569. Besides the algorithm’s self-learning capability, Google also consistently refines
14 the algorithm, updating it “multiple times a month.”⁴²⁵

17 ⁴¹⁸ Alexis C. Madrigal, *How YouTube’s Algorithm Really Works*, Atlantic (Nov. 8, 2018),
18 <https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/>; Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*,
19 Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

20 ⁴¹⁹ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
21 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

22 ⁴²⁰ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
23 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

24 ⁴²¹ Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016),
25 <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

26 ⁴²² Manage Your Recommendations and Search Results, Google,
27 <https://support.google.com/youtube/answer/6342839?hl=en&co=GENIE.Platform%3DAndroid>.

28 ⁴²³ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

⁴²⁴ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

⁴²⁵ Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization, and the Future for Creators*, Verge (Aug. 3, 2021),
<https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview>.

1 570. In 2017, the former technical lead for YouTube recommendations explained that
2 “one of the key things [the algorithm] does is it’s able to generalize.”⁴²⁶ While older iterations
3 “were pretty good at saying, here’s another [video] just like” ones the user had watched, by
4 2017, the algorithm could discern “patterns that are less obvious,” identifying “adjacent
5 relationships” of “similar but not exactly the same” content.⁴²⁷

6 571. Over time, the algorithm became increasingly successful in getting users to watch
7 recommended content. By 2018, YouTube Chief Product Officer Neal Mohan said that the
8 YouTube algorithm was responsible for more than 70% of users’ time using the product.⁴²⁸ That
9 is, more than 70% of the time users spend on YouTube was from recommendations Google’s
10 algorithm pushed to them rather than videos identified by users through independent searches.

11 572. The algorithm also keeps users watching for longer periods. For instance, Mohan
12 explained that mobile device users watch for more than 60 minutes on average per session
13 “because of what our recommendations engines are putting in front of [them].”⁴²⁹

14 573. The algorithm is particularly effective at addicting teenagers to the product. In
15 2022, Pew Research Center found that “[a]bout three-quarters of teens visit YouTube daily,
16 including 19% who report using the site or app almost constantly.”⁴³⁰

19 ⁴²⁶ Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017),
20 <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

21 ⁴²⁷ Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017),
22 <https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed>.

23 ⁴²⁸ Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET
24 (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

25 ⁴²⁹ Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET
26 (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

27 ⁴³⁰ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
28 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

1 574. A software engineer explained that the algorithm is “an addiction engine.”⁴³¹ He
2 raised concerns with YouTube staff, who said they had no intention to change the algorithms.
3 After all, the engineer explained, the algorithm works as intended: “it makes a lot of money.”⁴³²

4 575. Since users watch more than one billion hours of YouTube videos daily and
5 approximately 70% of the time is spent on videos pushed to users by YouTube’s
6 “recommendation engine,” Google’s algorithms are responsible for hundreds of millions of hours
7 users spend watching videos on YouTube each day.⁴³³

8 576. The videos pushed out to users by Google’s “recommendation engine” are more
9 likely to be addictive and more likely to lead to harm. For example, “fear-inducing videos cause
10 the brain to receive a small amount of dopamine,” which acts as a reward and creates a desire to
11 do something over and over.⁴³⁴ That dopaminergic response makes it more likely that a user will
12 watch the harmful video, which the algorithm interprets as signaling interest and preference.
13 Former Google engineers told the Wall Street Journal that “[t]he algorithm doesn’t seek out
14 extreme videos . . . but looks for clips that data show are already drawing high traffic and
15 keeping people on the site. Those videos often tend to be sensationalist.”⁴³⁵ An investigation by
16
17

18 ⁴³¹ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
19 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

20 ⁴³² Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
21 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

22 ⁴³³ See Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*,
23 CNET (Jan. 10, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

24 ⁴³⁴ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

25 ⁴³⁵ *Why is YouTube Suggesting Extreme and Misleading Content (2/7/2018)*,
26 <https://www.youtube.com/watch?v=7AjA3Df6i6o>; see also Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC (Feb. 13, 2018),
27 <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

1 *Bloomberg* put it simply: “In the race to one billion hours, a formula emerged: Outrage equals
2 attention.”⁴³⁶

3 577. Google’s algorithm makes it more likely for children to encounter harmful
4 content by pushing them down “rabbit holes,” which “[lead] viewers to incrementally more
5 extreme videos or topics, which . . . hook them in.”⁴³⁷ For example, a user might “[w]atch clips
6 about bicycling, and YouTube might suggest shocking bike race crashes.”⁴³⁸ In this way, the
7 algorithm makes it more likely that youth will encounter content that is violent, sexual, or
8 encourages self-harm, among other types of harmful content.

9 578. YouTube’s “recommendation engine” creates a vicious cycle in its ruthless quest
10 to grow view time. Users who get pushed down rabbit holes then become *models* for the
11 algorithm. And the algorithm consequently emphasizes that harmful content, disproportionately
12 pushing it to more users. That is, because Google designed the algorithm to “maximize
13 engagement,” uncommonly engaged users become “models to be reproduced.”⁴³⁹ Thus, the
14 algorithms will “favor the content of such users,” which is often more extreme.⁴⁴⁰

15 579. The algorithm also makes extreme content less likely to get flagged or reported.
16 As Guillaume Chaslot explained, the algorithm becomes “more efficient” over time “at
17 recommending specific user-targeted content.”⁴⁴¹ And as the algorithm improves, “it will be able
18

19 ⁴³⁶ Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*,
20 *Bloomberg* (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant>.

21 ⁴³⁷ Max Fisher & Amanda Taub, *On YouTube’s Digital Playground, an Open Gate for*
22 *Pedophiles*, *NY Times* (June 3, 2019),
<https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html>.

23 ⁴³⁸ Max Fisher & Amanda Taub, *On YouTube’s Digital Playground, an Open Gate for*
24 *Pedophiles*, *NY Times* (June 3, 2019),
<https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html>.

25 ⁴³⁹ Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, *Wired* (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

26 ⁴⁴⁰ Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, *Wired* (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

27 ⁴⁴¹ Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, *Wired* (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

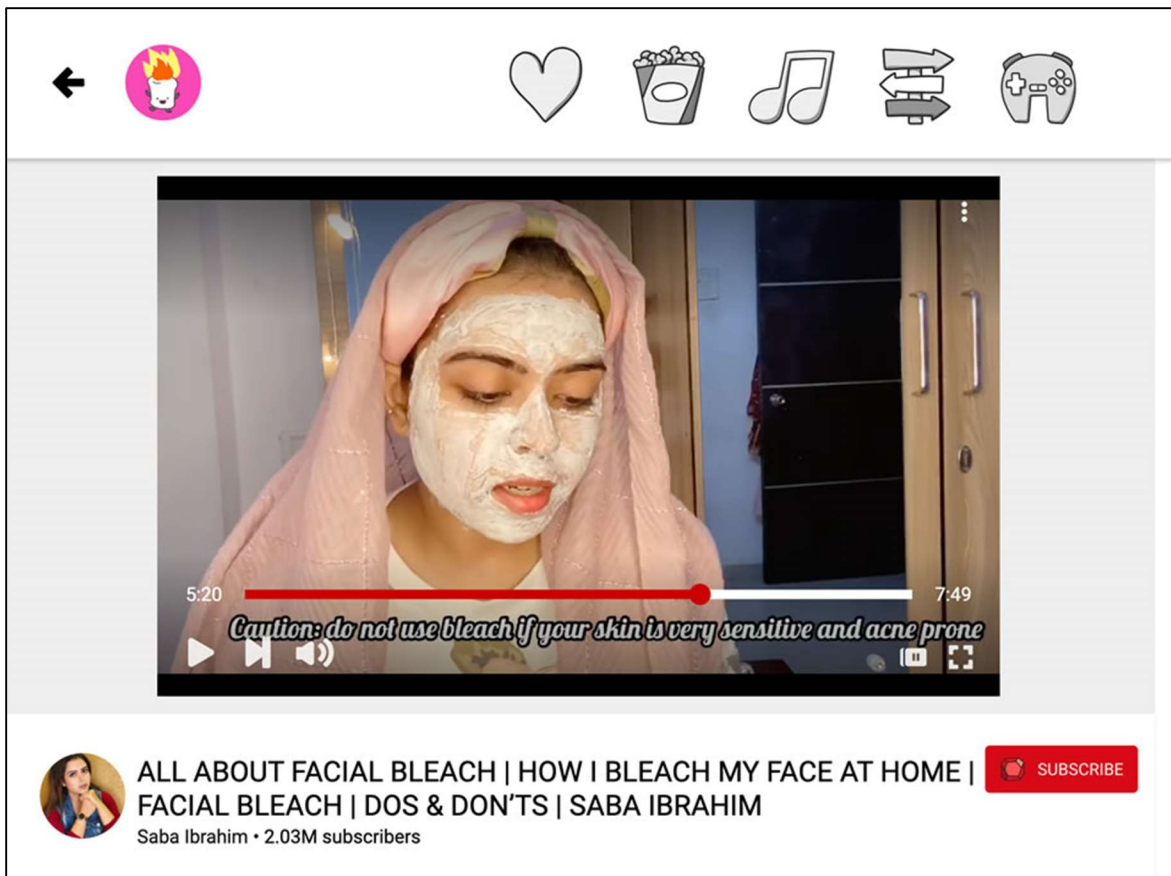
1 to more precisely predict who is interested in [harmful or extreme] content.”⁴⁴² So “problems
2 with the algorithm become exponentially harder to notice, as [harmful] content is unlikely to be
3 flagged or reported.”⁴⁴³

4 580. Even on YouTube Kids, Google’s product designed for children under 13 years
5 old, researchers from the Tech Transparency Project found that the product’s algorithm fed
6 children content related to drugs and guns, as well as beauty and diet tips that risked creating
7 harmful body image issues. For example, the researchers found videos speaking positively about
8 cocaine and crystal meth; instructing users, step-by-step, how to conceal a gun; explaining how
9 to bleach one’s face at home; and stressing the importance of burning calories.⁴⁴⁴

24 ⁴⁴² Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

25 ⁴⁴³ Guillaume Chaslot, *The Toxic Potential of YouTube’s Feedback Loop*, Wired (Jul. 13, 2019),
<https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/>.

26 ⁴⁴⁴ *Guns, Drugs, and Skin Bleaching: YouTube Kids Poses Risks to Children*, Tech Transparency
27 Project (May 5, 2022), <https://www.techtransparencyproject.org/articles/guns-drugs-and-skin-bleaching-youtube-kids-still-poses-risks-children>.



581. Amy Kloer, a campaign director with the child safety group Parents Together, spent an hour on her preschool-age child’s YouTube Kids account and found videos “encouraging kids how to make their shirts sexier, a video in which a little boy pranks a girl over her weight, and a video in which an animated dog pulls objects out of an unconscious animated hippo’s butt.”⁴⁴⁵ Another parent recounted how YouTube Kids autoplay feature led her 6-year-old daughter to “an animated video that encouraged suicide.”⁴⁴⁶

582. These are not isolated examples. According to Pew Research Center, 46% of parents of children 11 or younger report that children encountered videos that were inappropriate

⁴⁴⁵ Rebecca Heilweil, *YouTube’s Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021), <https://www.vox.com/recode/22412232/youtube-kids-autoplay>

⁴⁴⁶ Rebecca Heilweil, *YouTube’s Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021), <https://www.vox.com/recode/22412232/youtube-kids-autoplay>

1 for their age.⁴⁴⁷ And kids do not “choose” to encounter those inappropriate videos—YouTube’s
2 algorithm—its “recommendation engine”—directs and pushes them there. Again, YouTube’s
3 algorithm is responsible for 70% of the time users spend using the product.⁴⁴⁸

4 583. Other reports have confirmed that YouTube’s algorithm pushes users towards
5 harmful conduct. In 2021, the Mozilla Foundation studied 37,000 YouTube users, finding that
6 71% of all reported negative user experiences came from videos recommended to users by
7 Google’s algorithm.⁴⁴⁹ And users were 40% more likely to report a negative experience from a
8 video recommended by YouTube’s algorithm than from one they searched for.⁴⁵⁰ Importantly,
9 videos that elicited those negative experiences “acquired 70% more views per day than other
10 videos watched by [study] volunteers.”⁴⁵¹

11 584. Those defects combine to compel children and teenagers to overuse a product that
12 feeds them harmful content, which in turn can adversely affect mental health. One 10-year-old
13 girl in the Mozilla Foundation study who sought “dance videos, ended up encountering videos
14 promoting extreme dieting.”⁴⁵² Her mother explained that “[s]he is now restricting her eating and
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18 ⁴⁴⁷ Brooke Auxier et al., *Parenting Children in The Age of Screens*, Pew Rsch. Ctr. (July 28,
2020), <https://www.pewresearch.org/internet/2020/07/28/parental-views-about-youtube/>.

19 ⁴⁴⁸ Joan E. Solsman, *YouTube’s AI Is the Puppet Master over Most of What You Watch*, CNET
20 (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

21 ⁴⁴⁹ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
22 Algorithm, Mozilla Foundation 13 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

23 ⁴⁵⁰ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
24 Algorithm, Mozilla Foundation at 3 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

25 ⁴⁵¹ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
26 Algorithm, Mozilla Foundation at 3 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

27 ⁴⁵² YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
28 Algorithm, Mozilla Foundation at 13 (July 2021),
https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

1 drinking.”⁴⁵³ Another middle-schooler compulsively consumed YouTube videos every day after
2 she came home from school.⁴⁵⁴ Eventually, she became depressed and “got the idea to overdose
3 online.”⁴⁵⁵ Three weeks later, she “down[ed] a bottle of Tylenol.” She landed in rehab for digital
4 addiction due to her compulsive YouTube watching.⁴⁵⁶

5 585. Those experiences are not unique. Mental health experts have warned that
6 YouTube is a growing source of anxiety and inappropriate sexual behavior among kids under 13
7 years old. Natasha Daniels, a child psychotherapist, described treating children between 8 and 10
8 years old, who were “found doing sexual things: oral sex, kissing and getting naked and acting
9 out sexual poses.”⁴⁵⁷ This kind of behavior “usually indicates some sort of sexual abuse.”⁴⁵⁸
10 Previously, Daniels would typically “find a child who has been molested himself or that an adult
11 has been grooming the child from abuse.”⁴⁵⁹ But “in the last five years, when I follow the trail all
12 the way back, it’s YouTube and that’s where it ends.”⁴⁶⁰

13 _____
14 ⁴⁵³ YouTube Regrets: A Crowdsourced Investigations into YouTube’s Recommendation
15 Algorithm, Mozilla Foundation at 13 (July 2021),
16 https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

17 ⁴⁵⁴ Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
18 *‘Digital Addiction’*, PBS (May 16, 2017), [https://www.pbs.org/newshour/health/compulsively-](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction)
19 [watching-youtube-teenage-girl-lands-rehab-digital-addiction](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction).

20 ⁴⁵⁵ Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
21 *‘Digital Addiction’*, PBS (May 16, 2017), [https://www.pbs.org/newshour/health/compulsively-](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction)
22 [watching-youtube-teenage-girl-lands-rehab-digital-addiction](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction).

23 ⁴⁵⁶ Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for*
24 *‘Digital Addiction’*, PBS (May 16, 2017), [https://www.pbs.org/newshour/health/compulsively-](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction)
25 [watching-youtube-teenage-girl-lands-rehab-digital-addiction](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction).

26 ⁴⁵⁷ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
27 (Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html)
28 [in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

⁴⁵⁸ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html)
[in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

⁴⁵⁹ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html)
[in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

⁴⁶⁰ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html)
[in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

1 586. Daniels has also seen increased rates of anxiety among children using YouTube.
2 And because of that anxiety, those children “exhibit loss of appetite, sleeplessness, crying fits,
3 and fear.”⁴⁶¹ Ultimately, she says, “YouTube is an ongoing conversation in my therapy practice,
4 which indicates there’s a problem.”⁴⁶²

5 587. One study determined that using Google’s product was “consistently associated
6 with negative sleep outcomes.”⁴⁶³ Specifically, for every 15 minutes teens spent using YouTube,
7 they were 24% less likely to get seven hours of sleep. According to Dr. Alon Avidan, director of
8 the UCLA Sleep Disorders Center, YouTube is particularly sleep disruptive because its
9 recommendation algorithm and autoplay features make it “so easy to finish one video” and watch
10 the next.⁴⁶⁴ Similarly, a signal that the YouTube algorithm relies on is the ‘time of day’ a user is
11 watching—a signal that, when used to maximize length of duration with the YouTube product,
12 induces sleep deprivation.⁴⁶⁵

13 588. Sleep deprivation is, in turn, associated with poor health outcomes. For example,
14 “insufficient sleep negatively affects cognitive performance, mood, immune function,
15 cardiovascular risk, weight, and metabolism.”⁴⁶⁶

17
18 ⁴⁶¹ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

19 ⁴⁶² Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
20 (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

21 ⁴⁶³ Meg Pillion et al., *What’s ‘app’-ning to adolescent sleep? Links between device, app use, and*
22 *sleep outcomes*, 100 *Sleep Med.* 174–82 (Dec. 2022),
<https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub>.

23 ⁴⁶⁴ Cara Murez, *One App Is Especially Bad for Teens’ Sleep*, U.S. News & World Rep. (Sept.
24 13, 2022), <https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep>.

25 ⁴⁶⁵ YouTube, *How YouTube Works*, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content>.

26 ⁴⁶⁶ Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance*
27 *Among Young Adults*, 85 *Preventive Med.* 36–41 (Apr. 2016),
<https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

1 589. Compulsively consuming harmful content on YouTube can also harm brain
2 development. According to Donna Volpitta, Ed.D, “[c]hildren who repeatedly experience
3 stressful and/or fearful emotions may under develop parts of their brain’s prefrontal cortex and
4 frontal lobe, the parts of the brain responsible for executive functions, like making conscious
5 choices and planning ahead.”⁴⁶⁷

6 590. Google’s algorithm also promotes the creation of and pushes children towards
7 extremely dangerous prank or “challenge” videos, which often garner thousands of “Likes,”
8 adding to the pressure children feel to participate.⁴⁶⁸ For example, the YouTube algorithm
9 repeatedly pushed 10-year-old MDL plaintiff K.L.J. to videos of a viral prank called the “I Killed
10 Myself Prank,” in which children pretend to have committed suicide to record their loved ones’
11 reactions. When K.L.J. eventually participated in the prank and tried to pretend to hang himself,
12 he accidentally did hang himself, suffering brain damage as a result. The neurological and
13 psychological techniques by which Google, like other Defendants, fosters excessive, addictive
14 use of YouTube in turn foster watching “challenge” videos.

15 591. Even though Google knew or should have known of these risks to its youth users,
16 Google’s product lacks any warnings that foreseeable product use could cause these harms.

17 592. And despite all the evidence that YouTube’s design and algorithms harm millions
18 of children, Google continues to manipulate users and compel them to use the product
19 excessively, to enhance Google’s bottom line. As a result, young people are confronted with
20 more and more extreme videos, often resulting in significant harm.

24
25 ⁴⁶⁷ Josephine Bila, *YouTube’s Dark Side Could be Affecting Your Child’s Mental Health*, CNBC
(Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-
in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

26 ⁴⁶⁸ *See, e.g.,* ViralBrothers, *Revenge 9 – Cheating Prank Turns into Suicide Prank*, YouTube
27 (June 11, 2014), https://www.youtube.com/watch?v=Bf7xIjz_ww0.

1 **d. YouTube’s defective features include impediments to**
2 **discontinuing use.**

3 593. As with other Defendants, Google has intentionally and defectively designed its
4 products so that adolescent users face significant navigational obstacles and hurdles when trying
5 to delete or deactivate their accounts, in contrast to the ease with which users can create those
6 accounts.

7 594. *First*, because YouTube is accessible without a user needing to log in, YouTube
8 users cannot prevent themselves from being able to access YouTube by deleting their YouTube
9 account.

10 595. *Second*, YouTube accounts are linked to a user’s broader Google account. These
11 accounts are structured such that, for a user to delete a YouTube account, the user must also
12 delete the user’s entire Google account. This means that if a YouTube user uses Google’s other
13 products those accounts will be lost as well. This structure holds hostage user data—if a child
14 needs to keep their email account through Google (for instance, if that is a requirement of their
15 school), they cannot delete their YouTube account, even if they want to. If a user stores family
16 photos in Google Photos, but wants to delete their YouTube account, they must choose between
17 storage for their photos or deleting their YouTube account. Similarly, if a user has purchased
18 books or movies through Google’s digital market Google Play, the user’s copy of those books or
19 movies will be deleted if the user deletes their Google account to rid themselves of YouTube.
20 Google explicitly threatens users with this consequence on the page where users can delete their
21 account, listing every associated account Google will delete and providing examples of the kinds
22 of content that will be deleted if a user does not back down from their desire to delete their
23 YouTube account.

24 596. *Third*, Google intentionally designed its product so that to delete a user’s Google
25 account, a user must locate and tap on six different buttons (through six different pages and
26 popups) from YouTube’s main feed to delete an account successfully. This requires navigating
27 away from YouTube and into the webpages of other Google products. As with Meta, users are
28

1 still able to recover their accounts after deletion—though unlike Meta, Google does not tell users
2 when their accounts will become unrecoverable, simply threatening that they will soon after
3 deletion.

4 **4. Google facilitates the spread of CSAM and child exploitation.**

5 597. Various design features of YouTube promote and dramatically exacerbate sexual
6 exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms
7 children.

8 598. Google is required to comply with COPPA and obtain verifiable parental consent
9 before collecting personal information from children. It fails to do so. In 2019, the FTC and New
10 York Attorney General alleged in a federal complaint that Google and YouTube violated
11 COPPA by collecting personal information from children without verifiable parental consent.⁴⁶⁹

12 599. Google and YouTube collected persistent identifiers that they used to track
13 viewers of child-directed channels across the Internet without prior parental notification, in
14 violation of Sections 1303(c), 1305(a)(1), and 1306(d) of COPPA.⁴⁷⁰

15 600. Google and YouTube designed the child-centered YouTube Kids product. Despite
16 its clear knowledge of this channel being directed to children under 13 years old, Google served
17 targeted advertisements on these channels.⁴⁷¹

18 601. Google pays its users to create content because it benefits from increased user
19 activity and receives something of value for its YouTube Partner Program.⁴⁷²

21 ⁴⁶⁹ Fed. Trade Comm’n, Google and YouTube Will Pay Record \$170 Million for Alleged
22 Violations of Children’s Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

23 ⁴⁷⁰ Fed. Trade Comm’n, Google and YouTube Will Pay Record \$170 Million for Alleged
24 Violations of Children’s Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

25 ⁴⁷¹ Fed. Trade Comm’n, Google and YouTube Will Pay Record \$170 Million for Alleged
26 Violations of Children’s Privacy Law (2022), <https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law>.

1 602. Google allows users to monetize its product to generate revenue for itself and its
2 users, including users that violate laws prohibiting the sexual exploitation of children.

3 603. According to its own guidelines, Google prohibits using its social media product
4 in ways that “[endanger] the emotional and physical well-being of minors.”⁴⁷³

5 604. Google represents that YouTube “has strict policies and robust operations in place
6 to tackle content and behavior that is harmful or exploitative to children.”⁴⁷⁴

7 605. Google maintains that its guidelines prohibit images, videos, and comments that
8 put children at risk, “including areas such as unwanted sexualization, abuse, and harmful and
9 dangerous acts.”⁴⁷⁵

10 606. While Google “may place an age restriction on the video,”⁴⁷⁶ its product fails to
11 implement proper age-verification mechanisms to prevent minor users from accessing age-
12 restricted content, as discussed above.

13 607. Google fails to prevent collages of images and videos of children showing their
14 exposed buttocks, underwear, and genitals from racking up millions of views, on its product
15 which are then promoted and monetized by displaying advertisements from major brands
16 alongside the content.⁴⁷⁷

17 608. Through Google’s product, videos of minors revealing their “bathing suit hauls,”
18 playing in pools, beaches, waterparks, or performing gymnastics are recommended, shown, and
19 promoted to child predators who interact with these videos, including commenting to share “time
20

21 ⁴⁷² YouTube Partner Program overview & eligibility,
<https://support.google.com/youtube/answer/72851?hl=en>.

22 ⁴⁷³ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

23 ⁴⁷⁴ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

24 ⁴⁷⁵ Child safety policy - YouTube help, Google,
<https://support.google.com/youtube/answer/2801999?hl=en>.

25 ⁴⁷⁶ Child safety policy - YouTube help, Google,
26 <https://support.google.com/youtube/answer/2801999?hl=en>.

27 ⁴⁷⁷ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
(2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

1 codes for crotch shots,” to direct others to similar videos, and to arrange to meet up on other
2 social media products to share and exchange CSAM.⁴⁷⁸

3 609. Multiple YouTube channels dedicated to pre-teen models, young girls stretching,
4 and teen beauty are routinely oversexualized and manipulated by predators.⁴⁷⁹

5 610. Google’s product recommends and promotes abusive behaviors towards children
6 and victimizes unsuspecting minors on a mass scale.

7 611. When users search for images and videos of minors, Google’s algorithm pushes
8 additional videos, which strictly feature children, and this recommended content often includes
9 promoted content for which Google receives value from advertisers.

10 612. Users of Google’s product who search for images and videos of minors are further
11 inundated with comments from other predators that provide hyperlinks to CSAM and
12 opportunities to share CSAM on other products.⁴⁸⁰

13 613. On average, Google pays its creators \$0.50 to \$6.00 per 1,000 views of any video
14 they create, including materials depicting minors in violation of 18 U.S.C. §§ 2252, 2252A,
15 1591, 1466, and other criminal statutes.⁴⁸¹

16 614. Google actively participates and receives value for creating content on its product
17 in violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.

18 615. Google actively participates and receives value for creating content on its product
19 in violation of laws prohibiting the sexual exploitation of children.

22 ⁴⁷⁸ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
23 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

24 ⁴⁷⁹ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
25 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

26 ⁴⁸⁰ K.G Orphanides, *On YouTube, a network of pedophiles is hiding in plain sight* WIRED UK
27 (2019), <https://www.wired.co.uk/article/youtube-pedophile-videos-advertising>.

28 ⁴⁸¹ How YouTube creators earn money - how YouTube works, YouTube,
<https://www.youtube.com/howyoutubeworks/product-features/monetization/#:~:text=Advertising%20is%20the%20primary%20way,directly%20profit%20from%20their%20work>.

1 616. Google maintains that it is “dedicated to stopping the spread of online child
2 exploitation videos.”⁴⁸² Yet, it fails to implement proper safeguards to prevent the spread of
3 illegal contraband on its product.

4 617. The troves of data and information about its users that Google collects enable it to
5 detect, report as legally required, and take actions to prevent instances of sexual grooming,
6 sextortion, and CSAM distribution, but it has failed to do so. Google continues to make false
7 representations its “teams work around-the-clock to identify, remove, and report this content.”⁴⁸³

8 618. Google has proprietary technology, CSAI Match, that is supposed to combat
9 CSAI (Child Sexual Abuse Imagery) content online. This technology allows Google to identify
10 known CSAM contraband being promoted, shared, and downloaded on the YouTube product.
11 Google’s CSAI Match can identify which portion of the video matches known and previously
12 hashed CSAM and provide a standardized categorization of the CSAM. When a match is
13 detected by Google using CSAI Match, it is flagged so that Google can “responsibly report in
14 accordance to local laws and regulations.”⁴⁸⁴

15 619. Despite this, Google routinely fails to flag CSAM and regularly fails to
16 adequately report known content to NCMEC and law enforcement and fails to takedown,
17 remove, and demonetize CSAM.

18 620. Separate from CSAM detection, Google also implements an automated system
19 called Content ID “to easily identify and manage [its] copyright-protected content on
20 YouTube.”⁴⁸⁵ Videos uploaded to YouTube are “scanned against a database of audio and visual
21 content that’s been submitted to YouTube by copyright owners,” and Google can block,
22

23 ⁴⁸² YouTube, <https://www.youtube.com/csai-match/>.

24 ⁴⁸³ Google’s efforts to combat online child sexual abuse material,
<https://transparencyreport.google.com/child-sexual-abuse-material/reporting>.

25 ⁴⁸⁴ Google’s efforts to combat online child sexual abuse material,
26 <https://transparencyreport.google.com/child-sexual-abuse-material/reporting>.

27 ⁴⁸⁵ How Content ID Works – YouTube Help, Google,
<https://support.google.com/youtube/answer/2797370?hl=en>.

1 monetize, and track that material automatically.⁴⁸⁶ Google only grants Content ID to copyright
2 owners who meet its own specific criteria, and these criteria categorically exclude CSAM
3 victims. Google fails to use Content ID systems to block, remove, demonetize, or report CSAM
4 on its product.

5 621. In 2018, Google launched “cutting-edge artificial intelligence (AI) that
6 significantly advances [Google’s] existing technologies,” which Google claimed “drastically
7 improved” detection of CSAM that is distributed by its YouTube product.⁴⁸⁷ These claims were
8 false, and misled parents and children into believing its product is safe for minors. Google failed
9 to drastically improve the frequency of CSAM detection, reports, and takedowns on its product.

10 622. Google claims that it will “continue to invest in technology and organizations to
11 help fight the perpetrators of CSAM and to keep our products and our users safe from this type
12 of abhorrent content.”⁴⁸⁸ In reality, it fails to do so. Google fails to invest in adequate age
13 verification and continues to fail to remove CSAM from its product.

14 623. Google knows or should have known that YouTube facilitates the production,
15 possession, distribution, receipt, transportation, and dissemination of millions of materials that
16 depict obscene visual representations of the sexual abuse of children, or that violate child
17 pornography laws, each year.

18 624. Google knowingly fails to take adequate and readily available measures to
19 remove these contraband materials from its product in a timely fashion.

20 625. In violation of 18 U.S.C. § 2258A, Google knowingly fails to report massive
21 amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

23 ⁴⁸⁶ How Content ID Works – YouTube Help, Google,
24 <https://support.google.com/youtube/answer/2797370?hl=en>.

25 ⁴⁸⁷ Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse*
material online Google (2018), [https://blog.google/around-the-globe/google-europe/using-ai-](https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/)
[help-organizations-detect-and-report-child-sexual-abuse-material-online/](https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/).

26 ⁴⁸⁸ Nikola Todorovic, *Using AI to help organizations detect and report Child sexual abuse*
material online Google (2018), [https://blog.google/around-the-globe/google-europe/using-ai-](https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/)
[help-organizations-detect-and-report-child-sexual-abuse-material-online/](https://blog.google/around-the-globe/google-europe/using-ai-help-organizations-detect-and-report-child-sexual-abuse-material-online/).

1 626. YouTube is polluted with illegal material that promotes and facilitates the sexual
2 exploitation of minors, and Google receives value in the form of increased user activity for the
3 dissemination of these materials on its products.

4 627. Google failed to report materials in violation of the reporting requirements of 18
5 U.S.C. § 2258A.⁴⁸⁹

6 628. Google knows that its product is unsafe for children and yet fails to implement
7 safeguards to prevent children from accessing its product.

8 629. Further, there is effectively no way for users to report CSAM on Google's
9 YouTube product. YouTube does not allow users to specifically report any material posted on its
10 product as CSAM or child pornography.⁴⁹⁰

11 630. YouTube Mobile does not provide any way to report users, including users who
12 share CSAM on its product. On the desktop, a viewer can report a user, but Google has made the
13 reporting function difficult to access. Furthermore, reporting requires a viewer to have a Google
14 account and be logged in to the account to make the report.⁴⁹¹

15 **5. Google failed to adequately warn about the harm its products cause**
16 **or provide instructions regarding safe use.**

17 631. Since YouTube's inception, Google has failed to adequately warn adolescent
18 users about the physical and mental health risks its product poses. These risks include, but are
19 not limited to, product abuse, addiction, and compulsive use; sexual exploitation from adult
20 users; dissociative behavior; damage to body image; social isolation; impaired brain
21 development; and a plethora of mental health disorders like body dysmorphia, eating disorders,
22

23 ⁴⁸⁹ NCMEC, 2019 CyberTipline reports by Electronic Service Providers (ESP),
24 <https://www.missingkids.org/content/dam/missingkids/pdfs/2019-reports-by-esp.pdf>.

25 ⁴⁹⁰ Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting
26 Functions on Popular Platforms,
27 https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

28 ⁴⁹¹ Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting
Functions on Popular Platforms, at 18
https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

1 anxiety, depression, insomnia, ADD/ADHD exacerbation, suicidal ideation, self-harm, and
2 death.

3 632. Google targets adolescent users via advertising and marketing materials
4 distributed throughout digital and traditional media products. Its advertising and marketing
5 campaigns fail to provide adequate warnings to potential adolescent consumers of the physical
6 and mental risks associated with using YouTube.

7 633. Google further fails to adequately warn adolescents during the product
8 registration process. At account setup, Google's product contains no warning labels, banners, or
9 conspicuous messaging to adequately inform adolescent users of the known risks and potential
10 physical and mental harms associated with usage of its product. Instead, Google allows
11 adolescents to easily create an account (or multiple accounts), and to access YouTube with or
12 without an account.

13 634. Google's lack of adequate warnings continues once an adolescent uses YouTube.
14 Google does not adequately inform adolescent users that their data will be tracked, used to help
15 build a unique algorithmic profile, and potentially sold to Google's advertising clients.

16 635. Google's failure to warn adolescent users continues even as adolescents exhibit
17 problematic signs of addictive, compulsive use of YouTube. Google does not adequately warn
18 users when their screen time reaches harmful levels or when adolescents are accessing the
19 product on a habitual and uncontrolled basis.

20 636. Not only does Google fail to adequately warn users regarding the risks associated
21 with YouTube, it also does not provide adequate instructions on how adolescents can safely use
22 its product. A reasonable and responsible company would instruct adolescents on best practices
23 and safety protocols when using a product known to pose health risks.

24 637. Google also fails to adequately warn users that:

- 25 a. sexual predators use YouTube to produce and distribute CSAM;
 - 26 b. adult predators targeting young children for sexual exploitation,
27 sextortion, and CSAM are prevalent on YouTube;
- 28

- 1 c. usage of YouTube can increase the risk of children being targeted and
2 sexually exploited by adult predators; and,
3 d. usage of YouTube can increase risky and uninhibited behavior in children,
4 making them easier targets to adult predators for sexual exploitation,
5 sextortion, and CSAM.

6 **G. IMPACT OF THE DEFENDANT-CREATED MENTAL HEALTH CRISIS**
7 **ON PLAINTIFF**

8 638. Plaintiff operates the Granville County Public Schools, a school district that
9 serves approximately 6,500 students in Kindergarten through Twelfth Grade in 16 schools and
10 centers. Its mission is to empower every student every day. Plaintiff is located in Granville
11 County, North Carolina, with a population of approximately 62,000 residents.

12 639. Defendants' conduct has created a public health crisis in Plaintiff's schools, and
13 Plaintiff has spent significant and unexpected levels of time and resources on addressing the
14 pervasiveness of social media addiction and its sequelae.

15 640. There has been a surge in the proportion of youth in Plaintiff's community who
16 say they cannot stop or control their anxiety, who feel so sad and hopeless that they stop doing
17 the activities that they used to love, who are considering suicide, who made plans to commit
18 suicide, and who have attempted to commit suicide. In 2019, 18.9 percent of high school-aged
19 children in North Carolina reported seriously considered attempting suicide.⁴⁹² In 2021, that
20 number grew to 22.3 percent.⁴⁹³

21 641. The increases in anxiety, depression, and suicidal behavior among Plaintiff's
22 students have contributed to students' increased behavioral problems in Plaintiff's schools. In
23

24 ⁴⁹² 2019 North Carolina Youth Risk Behavior Survey (YRBS), *available at*
25 <https://www.dpi.nc.gov/districts-schools/classroom-resources/academic-standards/programs-and-initiatives/nc-healthy-schools/nc-healthy-schools-data#NCYRBS-3538>

26 ⁴⁹³ 2021 North Carolina YRBS, *available at* <https://www.dpi.nc.gov/districts-schools/classroom-resources/academic-standards/programs-and-initiatives/nc-healthy-schools/nc-healthy-schools-data#NCYRBS-3538>
27

1 recent years, an increasing number of students in Plaintiff's schools have been reported or
2 disciplined for disruptive conduct.

3 642. Much of the disruptive conduct in Plaintiff's schools occurs on or is related to
4 Defendants' platforms. A common pattern of disruptive conduct at Plaintiff's schools is that
5 students will film or photograph other students without their permission and post videos or
6 photos on Defendants' platforms. As a result, students cannot concentrate on schoolwork
7 because of distraction from addiction to the platforms, and from anxiety from being bullied and
8 harassed online. As a result, administrators and teachers cannot focus on educating. Rather, they
9 spend more and more time investigating and resolving disciplinary issues tied to Defendants'
10 platforms, and fielding complaints from students and parents alike.

11 643. The increase in students who report suffering from anxiety and depression and the
12 increase in behavioral issues—and the connection to Defendants' platforms—have not gone
13 unnoticed. Plaintiff's counselors estimate that a significant percent of student counseling is
14 related to social media. The common themes of these counseling sessions are that students feel
15 unable to manage their time and unable to control their impulse to use social media, and they
16 express fear and anxiety about what other students post about them on social media.

17 644. In addition to increased disciplinary incidents and counseling related to students'
18 compulsive use of Defendants' social media products, Plaintiff also faces attendance challenges.

19 645. Plaintiff has observed a marked increase in the number of students acting out and
20 in need of mental health services, caused in substantial part by Defendants' products exploiting
21 the brains of young users.

22 646. In an attempt to address this decline in students' mental, emotional, and social
23 health, Plaintiff has been forced to divert resources and expend additional resources to:

- 24 a. hire additional personnel, including counselors and medical professionals
25 to address mental, emotional, and social health issues;
 - 26 b. develop additional resources to address mental, emotional, and social
27 health issues;
- 28

- c. increase training for teachers and staff to identify students exhibiting mental emotional, and social distress;
- d. educate teachers, staff, and members of the community about the harms caused by Defendants' wrongful conduct;
- e. develop lesson plans to teach students about the dangers of using Defendants' platforms;
- f. update its student handbook to address use of Defendants' platforms; and
- g. update school policies to address use of Defendants' platforms

647. Additionally, more students have been involved in disciplinary incidents as a result of the decline in students' mental, emotional, and social health caused by Defendants. As a result, Plaintiff has been forced to divert resources and expend additional resources to:

- a. repair property damaged as a result of the exploitation of students by Defendants' platforms;
- b. increase disciplinary services and time spent addressing bullying, harassment, and threats;
- c. meet with students and the parents of students caught using Defendants' platforms at school;
- d. divert time and resources from instruction activities to notify parents and guardians of students' behavioral issues and attendance; and
- e. investigate and respond to threats made against schools and students over social media.

648. During the last decade, Plaintiff has had to increase the number of mental health professionals it employs across the district. Many students rely on these mental health professionals as their only form of mental healthcare. Yet Plaintiff's school psychologists and counselors cannot possibly keep up with the increased need for mental health services resulting

1 from students' use of Defendants' platforms.⁴⁹⁴ HCPSS is committed to all students and families
2 having access to social-emotional, behavioral and mental health interventions to support student
3 achievement and well-being. HCPSS, over the past several years, has hired school social
4 workers to further address the increased need for student mental health services. School social
5 workers advocate for, support, and empower students, schools, families and communities to
6 remove social, systemic and mental health barriers that impact student well-being to ensure a
7 safe and supportive learning environment.

8 649. As a result, the rest of Plaintiff's staff must fill in the gaps to help students with
9 mental health concerns. While this is admirable, teachers and other support staff cannot replace
10 certified counselors.

11 650. The funding needed to address these harms should not fall to the public. Rather,
12 Defendants should bear the burden of remedying their wrongs.

13 651. Ultimately, Plaintiff requires significantly greater and longer-term funding to
14 address the nuisance Defendants have created, along with abatement and injunctive relief.

15 **V. PLAINTIFF'S CLAIMS.**

16 **COUNT 1:**
17 **Public Nuisance**

18 652. Plaintiff realleges and incorporate by reference each preceding and succeeding
19 paragraph as though set forth fully at length herein.

20 653. Plaintiff brings this claim under North Carolina public nuisance law as to all
21 Defendants.

22 654. Under North Carolina law, a public nuisance is anything that threatens life,
23 promotes disease, affects the health of the community or shows the public morals or religious
24

25
26 ⁴⁹⁴ For example, FY23 = 172.5 counselors, 83.2 school psychologists, 9 social workers funded
27 from Operating (total = 264.7). FY18 it was 156.5 counselors, 67.7 school psychologists, 0
28 social worker (total= 224.2).

1 feelings of a community.⁴⁹⁵ A public nuisance injuriously affects rights of all people of
2 community and is something inherently injurious to the public health, safety or morals.

3 655. Defendants have created a mental health crisis in Plaintiff's schools, unreasonably
4 interfering with the public health and safety in Plaintiff's community and interfering with the
5 operations and learning environment of Plaintiff's schools.

6 656. Plaintiff and its students have a right to be free from conduct that endangers their
7 health, safety, and welfare. Yet Defendants have engaged in conduct which unreasonably and
8 substantially interferes with the public health and safety in Plaintiff's community by designing,
9 marketing, and operating their respective social media platforms for use by students in Plaintiff's
10 schools, in a manner that substantially interferes with the functions and operations of Plaintiff's
11 schools and with the public health, safety, and welfare of Plaintiff's community.

12 657. Each Defendant has created or assisted in the creation of a condition that is
13 injurious to the health, safety, and welfare of Plaintiff's community.

14 658. The health and safety of the students and employees of Plaintiff, including those
15 who use, have used, or will use Defendants' platforms, as well as those affected by others' use of
16 their platforms, are matters of substantial public interest and of legitimate concern to Plaintiff.

17 659. Defendants' conduct has affected and continues to affect a substantial number of
18 people within Plaintiff's schools and is likely to continue causing significant harm.

19 660. Defendants' conduct has directly caused a severe disruption of the public health,
20 order, and safety. Defendants' conduct is ongoing and continues to produce permanent and long
21 lasting damage.

22 661. This harm to youth mental health and the corresponding impacts on the public
23 health, safety, and welfare of Plaintiff's community outweighs any social utility of Defendants'
24 wrongful conduct.

25
26
27 ⁴⁹⁵ *State v. Everhardt*, 203 N.C. 610, 166 S.E. 738 (1932).

1 662. The rights, interests, and inconvenience to Plaintiff's community far outweighs
2 the rights, interests, and inconvenience to Defendants, who have profited tremendously from
3 their wrongful conduct.

4 663. But for Defendants' actions, Plaintiff's students would not use social media
5 platforms as frequently or continuously as they do today or be deluged with exploitive and
6 harmful content to the same degree, and the public health crisis that currently exists as a result of
7 Defendants' conduct would have been averted.

8 664. Logic, common sense, justice, policy, and precedent indicate Defendants' unfair
9 and deceptive conduct has caused the damage and harm complained of herein. Defendants knew
10 or reasonably should have known that their design, promotion, and operation of their platforms
11 would cause students to use their platforms excessively, that their marketing methods were
12 designed to appeal to youth, and that their active efforts to increase youth use of their platforms
13 were causing harm to youth and to schools, including youth in Plaintiff's schools.

14 665. Thus, the public nuisance caused by Defendants was reasonably foreseeable,
15 including the financial and economic losses incurred by Plaintiff.

16 666. Additionally, Defendants' conduct was a substantial factor in bringing about the
17 public nuisance. By designing, marketing, promoting, and operating their platforms in a manner
18 intended to maximize the time youth spend on their respective platforms—despite knowledge of
19 the harms to children and teens from their wrongful conduct—Defendants directly facilitated the
20 widespread, excessive, and habitual use of their platforms and the public nuisance effecting
21 Plaintiff's schools. By seeking to capitalize on their success by refining their platforms to
22 increase the time youth spend on their platforms, Defendants directly contributed to the public
23 health crisis and the public nuisance affecting Plaintiff's schools.

24 667. Defendants' conduct is especially injurious to Plaintiff because, as a direct and
25 proximate cause of Defendants' conduct creating or assisting in the creation of a public nuisance,
26 Plaintiff and its students and employees have sustained and will continue to sustain substantial
27 injuries.

1 668. Plaintiff has had to take steps to mitigate the harm and disruption caused by
2 Defendants' conduct, including the following:

- 3 a. hiring additional personnel to address mental, emotional, and social health
4 issues;
- 5 b. increase staff time to address mental, emotional, and social health issues;
- 6 c. developing additional resources to address mental, emotional, and social
7 health issues;
- 8 d. training teachers, staff, and members of the community about the harms
9 caused by Defendants' wrongful conduct;
- 10 e. developing lesson plans to teach students about the dangers of using
11 Defendants' platforms;
- 12 f. investing resources in educating students about safe use of Defendants'
13 platforms;
- 14 g. addressing property damaged as a result of students acting out because of
15 mental, social, and emotional problems caused by Defendants;
- 16 h. increasing disciplinary services and time spent addressing bullying,
17 harassment, and threats;
- 18 i. meeting with students and the parents of students caught using
19 Defendants' platforms at school or other disciplinary matters related to
20 students' use of Defendants' platforms;
- 21 j. diverting time and resources from instruction activities to notify parents
22 and guardians of students' behavioral issues and attendance;
- 23 k. investigating and responding to threats made against Plaintiff's schools
24 and students over social media; and
- 25 l. updating its student handbook to address use of Defendants' platforms.

26 669. As detailed herein, Plaintiff has suffered special damage different in kind or
27 quality from that suffered by the public in common. The damages suffered by Plaintiff have been
28

1 greater in degree and different in kind than those suffered by the general public including, but
2 not limited to, costs arising from: expending, diverting and increasing personnel to provide
3 mental health services; expending, diverting and increasing resources to address mental health
4 issues; expending, diverting and increasing staff time to confiscate cell phones and other devices;
5 expending, diverting and increasing staff time to communicate and engage with parents;
6 expending, diverting and increasing staff time associated with student discipline; expending,
7 diverting and increasing staff time associated with routing students to school psychologists and
8 counselors; expending, diverting and increasing staff time to train staff to identify students
9 exhibiting symptoms affecting their mental health; expending, diverting and increasing resources
10 for modifications to mental health curriculum; expending, diverting and increasing resources to
11 repair property damages as a result of the exploitive and harmful content Defendants directed to
12 students; and expending, diverting and increasing resources to investigate and respond to threats
13 made against schools and students over social media.

14 670. As a result of Defendant's conduct, Plaintiff has incurred and continues to incur
15 damages and is entitled to compensation therefor. Plaintiff requests all the relief to which it is
16 entitled in its own right and relating to the special damage or injury it has suffered, and not in
17 any representative or *parens patriae* capacity on behalf of students, including actual and
18 compensatory damages in an amount to be determined at trial and an order providing for the
19 abatement of the public nuisance that Defendants have created or assisted in the creation of, and
20 enjoining Defendants from future conduct contributing to the public nuisance described above.

21 671. Defendants are jointly and severally liable because they have acted in concert
22 with each other and because Plaintiff is not at fault.

23 672. Defendants' conduct, as described above, was intended to serve their own
24 interests despite having reason to know and consciously disregarding a substantial risk that their
25 conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants
26 consciously pursued a course of conduct knowing that it created a substantial risk of significant
27 harm to others, including Plaintiff. Defendants regularly risk the health of users of their
28

1 platforms with full knowledge of the dangers of their platforms. Defendants consciously decided
2 not to redesign, warn, or inform the unsuspecting public, including Plaintiff's students or
3 Plaintiff. Defendants' reckless and outrageous indifference to a highly unreasonable risk of harm
4 and conscious indifference to the health, safety, and welfare of others warrants an award of
5 punitive damages.

6 **COUNT 2:**
7 **Negligence**

8 673. Plaintiff incorporates by reference all preceding paragraphs.

9 674. Defendants owed Plaintiff a duty to not expose Plaintiff to an unreasonable risk of
10 harm, and to act with reasonable care as a reasonably careful person and/or company would act
11 under the circumstances.

12 675. At all times relevant to this litigation, Defendants owed a duty to its users and
13 Plaintiff to exercise reasonable care in the design, research, development, testing, marketing,
14 supply, promotion, advertisement, operation, and distribution of their social media products,
15 including the duty to take all reasonable steps necessary to design, research, market, advertise,
16 promote, operate, and/or distribute their platforms in a way that is not unreasonably dangerous to
17 users, including children.

18 676. At all times relevant to this litigation, Defendants owed a duty to users and
19 Plaintiff, to exercise reasonable care in the design, research, development, testing, marketing,
20 supply, promotion, advertisement, operation, and distribution of their social media platforms,
21 including the duty to provide accurate, true, and correct information about the risks of using
22 Defendants' platforms; and appropriate, complete, and accurate warnings about the potential
23 adverse effects of extended social media use, in particular, social media content Defendants
24 directed via their algorithms to users.

25 677. At all times relevant to this litigation, Defendants knew or, in the exercise of
26 reasonable care, should have known of the hazards and dangers of their respective social media
27
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1 platforms and specifically, the health hazards their platforms posed to youth in particular,
2 especially extended or problematic use of such platforms.

3 678. Accordingly, at all times relevant to this litigation, Defendants knew or, in the
4 exercise of reasonable care, should have known that use of Defendants' social media platforms
5 by youth could cause Plaintiff's injuries and thus created a dangerous and unreasonable risk of
6 injury to Plaintiff.

7 679. Defendants also knew or, in the exercise of reasonable care, should have known
8 that users of Defendants' social media platforms were unaware of the risks and the magnitude of
9 the risks associated with the use of Defendants' platforms including but not limited to the risks of
10 extended or problematic social media use and the likelihood that algorithm-based
11 recommendations would expose child and adolescent users to content that is violent, sexual, or
12 encourages self-harm, among other types of harmful content.

13 680. As such, Defendants, by action and inaction, representation and omission,
14 breached their duty of reasonable care, failed to exercise ordinary care, and failed to act as a
15 reasonably careful person and/or company would act under the circumstances in the design,
16 research, development, testing, marketing, supply, promotion, advertisement, operation, and
17 distribution of their social media platforms, in that Defendants designed, researched, developed,
18 tested, marketed, supplied, promoted, advertised, operated, and distributed social media
19 platforms that Defendants knew or had reason to know would negatively impact the mental
20 health of users, particularly youth, and failed to prevent or adequately warn of these risks and
21 injuries.

22 681. Despite their ability and means to investigate, study, and test their social media
23 platforms and to provide adequate warnings, Defendants have failed to do so. Defendants have
24 wrongfully concealed information and have made false and/or misleading statements concerning
25 the safety and use of Defendants' social media platforms. Defendants breached their duty of care
26 by:

- 1 a. designing, researching, developing, marketing, supplying, promoting,
2 advertising, operating, and distributing their social media platforms
3 without thorough and testing;
- 4 b. failing to sufficiently study and conduct necessary tests to determine
5 whether or not their social media platforms were safe for youth users;
- 6 c. failing to use reasonable and prudent care in the research, design,
7 development, testing, marketing, supply, promotion, advertisement,
8 operation, and distribution of their social media platforms so as to avoid
9 the risk encouraging extended social media use;
- 10 d. designing their social media platforms to maximize the amount of time
11 users spend on the platform and causing excessive and problematic use of
12 their platforms, particularly among youth, through the use of algorithm-
13 based feeds, social reciprocity, and IVR;
- 14 e. failing to implement adequate safeguards in the design and operation of
15 their platforms to ensure they would not encourage excessive and
16 problematic use of their platforms;
- 17 f. designing and manufacturing their platforms to appeal to minors and
18 young people who lack the same cognitive development as adults and are
19 particularly vulnerable to social rewards like IVR and social reciprocity;
- 20 g. failing to take adequate steps to prevent their platforms from being
21 promoted, distributed, and used by minors under the age of 13;
- 22 h. failing to provide adequate warnings to child and adolescent users or
23 parents who Defendants could reasonably foresee would use their
24 platforms;
- 25 i. failing to disclose to, or warn, Plaintiff, users, and the general public of the
26 negative mental health consequences associated with social media use,
27 especially for children and adolescents;
- 28

- 1 j. failing to disclose to Plaintiff, users, and the general public that
2 Defendants' platforms are designed to maximize the time users,
3 particularly youth, spend on Defendants' platforms and cause negative
4 mental health consequences;
- 5 k. representing that Defendants' platforms were safe for child and adolescent
6 users when, in fact, Defendants knew or should have known that the
7 platforms presented acute mental health concerns for young users;
- 8 l. failing to alert users and the general public, including students at
9 Plaintiff's schools of the true risks of using Defendants' platforms;
- 10 m. advertising, marketing; and recommending Defendants' platforms while
11 concealing and failing to disclose or warn of the dangers known by
12 Defendants to be associated with, or caused by, youth use of Defendants'
13 platforms;
- 14 n. continuing to design, research, develop, market, supply, promote,
15 advertise, operate, and distribute Defendants' platforms with knowledge
16 that Defendants' platforms are unreasonably unsafe, addictive, and
17 dangerous to youth mental health;
- 18 o. failing to modify Defendants' algorithms, which are used to recommend
19 content to users, in a manner that would no longer prioritize maximizing
20 the amount of time users spend on Defendants' platforms over the safety
21 of its youth users;
- 22 p. failing to adequately modify Defendants' algorithm-based
23 recommendations to filter out content that expose child and adolescent
24 users to content that is violent, sexual, or encourages self-harm, among
25 other types of harmful content; and
- 26 q. committing other failures, acts, and omissions set forth herein.
27
28

1 682. Defendants knew or should have known that it was foreseeable that Plaintiff, as
2 the primary and sometimes only mental health service provider for many its students, would
3 suffer injuries as a result of Defendants' failure to exercise reasonable care in designing,
4 researching, developing, testing, marketing, supplying, promoting, advertising, operating, and
5 distributing Defendants' platforms, particularly when Defendants' platforms were designed,
6 developed, operated and marketed to maximize the time youth spend on Defendants' platforms
7 Plaintiff did not know and could not have known the nature and extent of the injuries that could
8 result from the intended use of Defendants' social media platforms by Plaintiff's students.

9 683. Defendants' negligence helped to and did produce, and was the proximate cause
10 of, the injuries, harm, and losses that Plaintiff suffered and will continue to suffer, as detailed
11 above. Such injuries, harm, and losses would not have happened without Defendants' negligence
12 as described herein.

13 684. The mental health crisis caused and/or significantly contributed to by Defendants
14 has caused a major disruptive behavioral situation in Plaintiff's schools, and Plaintiff has had to
15 take steps to mitigate the harm and disruption caused by Defendants' conduct, including the
16 following:

- 17 a. hiring additional personnel to address mental, emotional, and social health
18 issues;
 - 19 b. increase staff time to address mental, emotional, and social health issues;
 - 20 c. developing additional resources to address mental, emotional, and social
21 health issues;
 - 22 d. training teachers, staff, and members of the community about the harms
23 caused by Defendants' wrongful conduct;
 - 24 e. developing lesson plans to teach students about the dangers of using
25 Defendants' platforms;
 - 26 f. investing resources in educating students about safe use of Defendants'
27 platforms;
- 28

- 1 g. addressing property damaged as a result of students acting out because of
2 mental, social, and emotional problems caused by Defendants;
- 3 h. increasing disciplinary services and time spent addressing bullying,
4 harassment, and threats;
- 5 i. meeting with students and the parents of students caught using
6 Defendants' platforms at school or other disciplinary matters related to
7 students' use of Defendants' platforms;
- 8 j. diverting time and resources from instruction activities to notify parents
9 and guardians of students' behavioral issues and attendance;
- 10 k. investigating and responding to threats made against Plaintiff's schools
11 and students over social media; and
- 12 l. updating its student handbook to address use of Defendants' platforms.

13 685. As a result of Defendants' negligence, Plaintiff suffered harm to their real and
14 personal property along with other economic losses, including the costs associated with past,
15 present, and future efforts to address, pay for and/or eliminate the youth mental health crisis, in
16 an amount to be proven at trial.

17 **COUNT 3:**
18 **Gross Negligence /Willful and Wanton Conduct**

19 686. Plaintiff incorporates by reference all preceding paragraphs.

20 687. Defendants knew of the substantial risk of harm that their platforms posed to
21 users' mental health, particularly children and adolescents.

22 688. Defendants' conduct at all times was and is willful and wanton.

23 689. Defendants' conduct, as described above, was intended to serve their own
24 interests despite having reason to know and consciously disregarding a substantial risk that their
25 conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants
26 consciously pursued a course of conduct knowing that it created a substantial risk of significant
27 harm to others, including Plaintiff. Defendants regularly risk the health of users of their
28

1 platforms with full knowledge of the significant dangers of their platforms. Defendants
2 consciously decided not to redesign, warn, or inform the unsuspecting public, including
3 Plaintiff's students or Plaintiff.

4 690. Defendants' gross negligence caused or was a substantial factor in causing
5 foreseeable harm to Plaintiff's real and personal property and other economic losses in an
6 amount to be proven at trial.

7 691. Defendants' reckless and outrageous indifference to a highly unreasonable risk of
8 harm and conscious indifference to the health, safety, and welfare of others warrants an award of
9 punitive damages.

10 **VI. PRAYER FOR RELIEF**

11 Plaintiff demand judgment against each of the Defendants to the full extent of the law,
12 including but not limited to:

- 13 1. Entering an Order that the conduct alleged herein constitutes a public nuisance under
14 North Carolina law;
- 15 2. Entering an Order that Defendants are jointly and severally liable;
- 16 3. Entering an Order requiring Defendants to abate the public nuisance described herein
17 and to deter and/or prevent the resumption of such nuisance;
- 18 4. Enjoining Defendants from engaging in further actions causing or contributing to the
19 public nuisance as described herein;
- 20 5. Awarding equitable relief to fund prevention education and treatment for excessive
21 and problematic use of social media;
- 22 6. Awarding actual, compensatory, and punitive damages;
- 23 7. Awarding reasonable attorneys' fees and costs of suit;
- 24 8. Awarding pre-judgment and post-judgment interest; and
- 25 9. Such other and further relief as the Court deems just and proper under the
26 circumstances.

1 **VII. JURY DEMAND**

2 Plaintiff demands a trial by jury on all issues so triable.

3
4 Dated: August 9, 2024

Respectfully submitted,

5 /s/ Janet Ward Black

6 Janet Ward Black, Bar No. 12869

WARD BLACK LAW

208 W Wendover Avenue

7 Greensboro, NC 27401

8 Tel: 336-333-2244

9 Fax: 336-510-2168

jwblack@wardblacklaw.com

10 Attorneys for Plaintiff

11 Of Counsel:

12 /s/ Philip C. Federico

13 **BAIRD MANDALAS BROCKSTEDT & FEDERICO, LLC**

Philip C. Federico

14 Brent P. Ceryes

Matthew P. Legg

15 2850 Quarry Lake Drive, Suite 220

16 Baltimore, Maryland 21209

Telephone: 410-421-7777

17 mlegg@bmbfclaw.com

18 **BAIRD MANDALAS BROCKSTEDT & FEDERICO, LLC**

Stella D. Pratt

19 2711 Centerville Road, Suite 401

20 Wilmington, Delaware 19808

Telephone: 302-327-1100

21 spratt@bmbde.com

22
23 /s/ Lexi J. Hazam

LIEFF CABRASER HEIMANN & BERNSTEIN, LLP

Lexi J. Hazam

Patrick I. Andrews

25 275 Battery Street, 29th Floor

26 San Francisco, California 94111-3339

Telephone: 415-956-1000

27 lhazam@lchb.com

28 pandrews@lchb.com

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LIEFF CABRASER HEIMANN & BERNSTEIN, LLP

Jason L. Lichtman
Kelly K. McNabb
250 Hudson Street, 8th Floor
New York, New York 10013
Telephone: 212-355-9500
jlichtman@lchb.com
kmcnabb@lchb.com